Ethnic identity, language, and /o/ fronting among Latinos at UNC Chapel Hill

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ABSTRACT

MCGEE VICTORIA: Ethnic identity, language, and /o/ fronting among Latinos at UNC Chapel Hill

(Under the direction of David Mora Marín)

This study focuses on the variety of English used by college students at UNC Chapel Hill who self-identify as Latino and the relationship between the social and linguistic categories governing the speech of this particular group. The study will reveal, through conversations, interviews and questionnaires, certain details pertaining to the creation and expression of ethnic identity, which allows each speaker to orient themselves socially within the complex matrix of a college campus. The linguistic analysis of the study involves obtaining measurements of the F2 values of /o/ of Latino English speaking university students at UNC Chapel Hill at various grade levels and analyzing these measurement statistically in order to determine patterns that explain the connection between /o/ fronting and ethnic identity.

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I would like to thank all those who helped in making this project possible. I apologize for not listing each and every one of you here as that would require an interminable list of names. At any rate, you know who you are and please know that I would not have been able to do any of this without you.

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CHAPTER I

INTRODUCTION

The general aim of sociolinguistics is to find the connection between language and society, the everyday context of language use. Social life can better be explained by looking at the way that specific social categories, such as age and ethnicity, influence language, as well as how particular groups of people view, maintain, and use a particular language. Ethnicity, and ethnic identification, in particular, is a factor that sociolinguists have repeatedly identified as a variable that exerts a significant influence on language even though this variable is not always directly measured and analyzed in relation to the particular linguistic variant in question. Investigations such as Walt Wolfram's (1974) study and Shana Poplack's (1978) study on Puerto Rican English show the influence that ethnicity and contact with other ethnic groups (African American and European American) that are present in the same geographical area exert on the speech of a particular group, particularly in combination with other social factors traditionally examined along with linguistic phenomena such as sex and social class. Other studies, such as Carmen Fought's 1997 and 2003 studies on the speech of Mexican American adolescents in Los Angeles, show the link between certain linguistic phenomena characteristic of the speech of the European American ethnic majority, which are also present in the speech of these Mexican American adolescents, and novel social categories such as gang-affiliation as well as more traditional social categories such as social class, age and sex. Fought's study also considers the importance of Spanish/English bilingualism to this particular population, as well as particular social factors that play a

role in the degree of Spanish fluency of a particular speaker, such as sex, socioeconomic class and monolingual (Spanish-speaking) parents.

This study aims to follow in the footsteps of previous sociolinguists in examining the relationship between language and ethnic identity within the Latino community. This study focuses on the variety of English used by college students at UNC Chapel Hill who self-identify as Latino and the relationship between the social and linguistic categories governing the speech of this particular group. The study will reveal, through conversations, interviews and questionnaires, certain details pertaining to the creation and expression of ethnic identity, which allows each speaker to orient themselves socially within the complex matrix of a college campus. The interviews and conversations will also capture thoughts and opinions of these students on a wide variety of incontrovertible and controversial topics, ranging from music and movies to race and racism in the U.S. South. The linguistic analysis of the study involves obtaining measurements of the F2 values of /o/ of Latino English speaking university students at UNC Chapel Hill at various grade levels. This particular vowel was chosen, as the fronted variant is a characteristic linguistic marker of Southern American English (SAE) speech (Kurath and McDavid 1961). Spontaneous speech recordings were gathered and each recorded interview was analyzed phonetically, focusing on the first two formants of /o/ vowel elicitations, in particular the second formant, which determines vowel backness. Measurements of the first two formants were also taken from tokens of /i/ and /ɑ/ in order to normalize the /o/ tokens for the sake of comparison as well as locate them within the vowel space of each speaker. Finally, the data was coded and analyzed statistically in order to determine patterns that explained the connection between /o/ fronting and ethnic identity.

In Chapter II of this thesis I will address the history of the Latino population

within the United States, focusing on the region of the Southeastern United States, with the state of North Carolina being the main area of interest. This analysis will also include current demographic trends as well as educational achievement trends of the Latino population. I will also briefly summarize the issue of nomenclature of the variety of English as well as mention previous relevant studies and provide a list of linguistic characteristics from these previous studies.

In Chapter III, I will take a look at previous studies regarding minority ethnic dialects in the United States, in particular those dealing with AAE (African American English), and how these studies might be connected with current studies of Latino English. This will require an explanation of resultant theories derived from studies conducted on those dialects, which have proved to be influential in the interpretation of sociolinguistic data of minority ethnic dialects in general. In particular, I will examine prior studies both in support of (Bayley and Maynor 1989, Labov 1987) and against (Vaughn-Cooke 1987, Butters 1989) the Divergence Hypothesis as applied to African American English.

Based on these previous studies and theories I expect to find that college age speakers of Latino English will converge with the local Southern American English (SAmE) vernacular with regard to /o/ vowel pronunciation. This is consistent with Carmen Fought's (2003) study of Chicano English speakers in the Los Angeles area in which the vowel productions were similar to those of the local dialect norm of the area. Furthermore, I expect to find that the degree of convergence with local dialect norms is directly correlated with the population that the Latino English students are most identify with. In the case of my study, this means that the Latino English speakers at UNC who are more integrated with the majority European American culture will produce /o/ farther forward than those who are more involved with the Latino or other ethnic minority

populations on campus.

In Chapter IV, I will present and review the data from the recorded interviews from the subjects from both universities. This chapter will also include information on the speech communities studied as well as a detailed methodology and justification on how the entire study was carried out. This will be followed by the concluding analysis in Chapter V, which will compare the results of the interviews from UNC and explain how this original data contributes to or detracts from the Divergence Hypothesis and will discuss potential new avenues for research.

CHAPTER II

LATINO ENGLISH: HISTORY, DEFINITION, AND PREVIOUS RELEVANT STUDIES

2.1 History and Immigration

There is little doubt that Spanish-speaking peoples have had an undeniable cultural and linguistic presence on the North American continent, in particular, in the area that is the current-day United States of America. The first encounter Spanish-speaking people had with modern day U.S. territory was in 1513 with the settlement of St. Augustine in Florida. For centuries thereafter, Spanish was spoken throughout modern day U.S. territories, and the Spanish crown ruled over an expansive territory, including the current-day U.S. states of Florida, Louisiana, Texas, New Mexico, Arizona, California, Kansas, Nebraska, Utah, Colorado, Nevada, Oregon, Washington and Alaska (Cutter and Engstrand 1996:2). Direct rule from the Spanish crown in parts of the current day U.S. ended in 1821 with the independence of Mexico, which then included much of the present day U.S. Southwest. The Spanish-speaking communities in these areas, however, did not disappear along with the influence of the Spanish crown, and in many places coexisted for many years along with English speaking Europeans and European Americans, as was the case with Texas, for example.

Clearly, then, the U.S. has historically been connected to and has coexisted, in some cases reluctantly, with Spanish-speaking and Latino communities. Most current literature on the Latino community in the United States focuses on the massive influx of Latin American immigrants that have ventured north in the past twenty years. Table 2.0

shows the increase in the Hispanic population from 2000-2008 in the U.S. There is no dispute that the Hispanic population in the U.S. has been and is steadily increasing. Not only has the population of Hispanics increased from 2000-2008, but the percentage of the U.S. population that is Hispanic has also increased so much so that the Hispanic population is now the largest ethnic minority population within the United States. The rate growth of the Hispanic population is also very high: despite a general overall population increase in the U.S., the Hispanic population is growing even faster, which is shown in the significant increase in the percentage of the U.S. population that is Hispanic between 2000-2008.

Table 2.0: Hispanic Population in the U.S., 2000-2008[1]

Year	Total U.S. Population	Total Hispanic Pop.	% Hispanic
2000	281,421,906	35,204,480	12.5
2008	304,059,728	46,822,476	15.4

The general trend of increasing population with respect to the Latino community has been felt with more intensity in the South[2]. According to Mary Odem and Elaine Lacy (2009), starting in the 1980's in North Carolina and Georgia and in the 1990's for the other Southern states, Latino rates of immigration experienced dramatic increases, with immigrants hailing mainly from Mexico, Central America and South America (x). The massive influx of immigrants was mainly spurned by economic and political reasons, as Latin Americans were fleeing political violence and the failing economies of their home countries during the economic restructuring that occurred in the 1980's and 1990's, and venturing to the South due to the large quantity of unskilled and semi-skilled jobs and

[1] Source: Pew Hispanic Center, U.S. Census Bureau American Community Survey, 2008

[2] I will adopt the same definition of the South as is used by Mary Odem and Elaine Lacy in their 2009 book, Latino Immigrants and the Transformation of the U.S. South. This area refers to the following ten states: Georgia, North Carolina, South Carolina, Virginia, Tennessee, Alabama, Mississippi, Arkansas, Louisiana and Kentucky. Texas and Florida were not included due to the historical presence of well-established Latino communities.

a relatively low cost of living (Odem and Lacy xvi). Table 2.1 shows just how drastic the increase in Latin American population was in the South during 1990-2006.

Table 2.1: Latino Population in Southern States 1990-2006 (Odem and Lacy 2009)[3]

	Latino Population			**% Change (increase)**		
State	***1990 census***	***2000 census***	***2006 survey***	***1990-2006***	***2000-6***	***1990-2006***
North Carolina	76,745	378,693	597,382	393.8%	57.6%	678.4%
Arkansas	19,876	86,866	138,283	337.0%	59.2%	595.7%
Georgia	108,933	435,227	696,146	299.5%	60.0%	539.1%
Tennessee	32,742	123,838	187,747	278.2%	51.6%	473.4%
South Carolina	30,500	95,076	148,632	211.7%	56.3%	387.3%
Alabama	24,629	75,830	111,432	207.9%	46.9%	352.4%
Kentucky	22,005	59,939	83,015	172.4%	38.5%	277.3%
Virginia	160,403	329,540	470,871	105.4%	42.9%	193.6%
Mississippi	15,998	39,569	46,348	147.3%	17.1%	189.7%
Louisiana	93,067	107,738	123,281	15.8%	14.4%	32.5%
Total South	***584,898***	***1,732,586***	***2,603,137***	***196.2%***	***50.2%***	***345.1%***

2.1.1. Latinos in North Carolina

In North Carolina, the influx of Latino immigrants has been very significant and continues to be. In fact, the Modern Languages Association estimates that some five percent of the population of North Carolina speaks Spanish. In general, most Latino immigrants in North Carolina are centralized in the areas along the I-40 and I-85 corridor, with the highest concentrations of Spanish speakers located in Wake and Gaston counties. (see Fig. 2.0). Table 2.2 shows the increase in the Latino population in the major metropolitan areas of North Carolina from 1990-2006, which is well over 1000% for all of the areas listed in the table. The population explosion in these areas of North Carolina is the highest of any of the major metropolitan areas of the South (Odem and Lacy 2009). This fact is undeniable when, even in Chapel Hill and Carrboro, two adjacent towns with a combined population of about 75,000, one can likely walk to a taco truck or a restaurant

[3] Data source: U.S. Census Bureau American Community Survey 2006

serving Latino (usually Mexican) food, a Latino market or even read bilingual signs in English and Spanish at local hardware stores.

Figure 2.0: Latino Population Concentration 2004 (Kasarda and Johnson 2006)

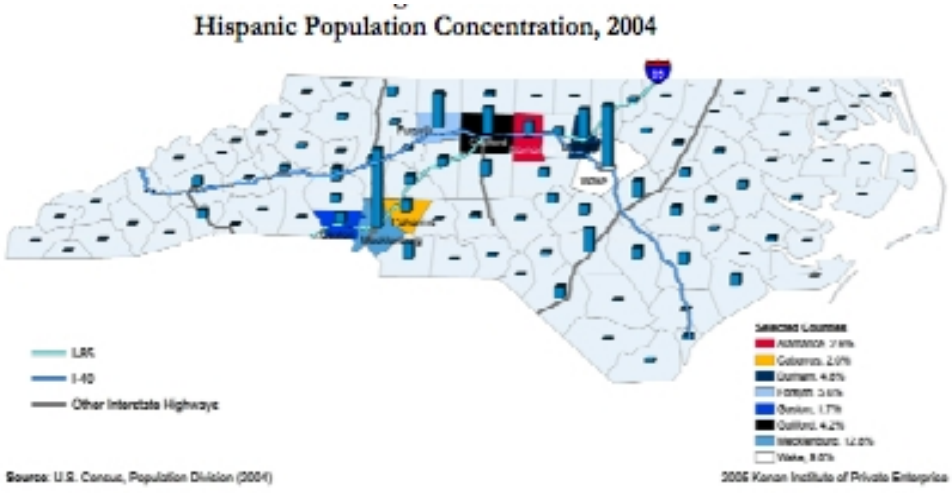


Table 2.2: Latino Population in North Carolina, Selected Metropolitan Areas 1990-2006 (Odem and Lacy 2009)[4]

	Latino Population			***% Change (increase)***		
Metro Area	**1990**	**2000**	**2006**	**1990-2000**	**2000-6**	**1990-2006**
Charlotte, NC	10,671	77,092	126,608	622.4%	64.2%	1086.5%
GSO-W-S, NC	7,096	62,210	114,120	776.7%	83.4%	1508.2%
Triangle, NC	*9,019*	*72,580*	*133,959*	*704.7%*	*84.6%*	*1385.3%*

As mentioned previously, many of the immigrants flowing into the South originally came from various Latin American countries. Overwhelmingly, these immigrants are of Mexican origin, but immigrants of other Latin American nationalities are also represented such as Puerto Ricans, Guatemalans, Salvadorans, Colombians, Peruvians, Venezuelans and Dominicans. Therefore, and especially in light of the

[4] Data source: U.S. Census Bureau American Community Survey 2006

questions that this paper attempts to address, it is important to include subjects of all Latin American countries in order to obtain a representative sample of the Latino population of North Carolina. Table 2.3 gives the breakdown of the country of origin of Latino immigrants in North Carolina.

Table 2.3: Origin of Latino Population 2006 (Odem and Lacy 2009)[5]

	Mexican	**Puerto Rican**	**Cuban**	**Dominican**	**Central American**	**South American**	**Other**
NC (111,432)	66.6%	7.5%	1.8%	1.2%	13.2%	5.0%	4.8%

2.1.2 Latinos and Universities

As the focus of this paper is on Latino university students in North Carolina, it would be pertinent to include demographic data on the number of Latinos who have completed some level of post-secondary education. A common misconception is the assumption that most Latinos are likely illegal immigrants and making them inelligible for a university education due to state law. The first part of this assumption, in light of demographic data, is somewhat baseless, as a good part of the Latinos in North Carolina were either born in the state (20.6%) or were born in another U.S. jurisdiction (20.7%) making about 41.3% of the North Carolina Latino population U.S. citizens (Johnson & Kasarda 2006). However, of the other 58.7% of Latinos living in North Carolina, all of who are foreign-born Latinos, 24.1% are in the state illegally (Johnson & Kassarda 2006). Table 2.4 gives the country of origin and immigration status for Latinos in North Carolina.

[5] U.S. Census Bureau American Community Survey 2006

Table 2.4: Immigration Status of North Carolina Latinos by Origin (Johnson & Kasarda 2006)

Birth Place	Total Population†	%	Authorized Population	%
All North Carolina Hispanics	600,913	100.0	333,564	55.5
Hispanics born in North Carolina	124,283	20.6	124,283	100.0
Hispanics born in other U.S. jurisdictions	124,392	20.7	124,392	100.0
Hispanics born in Mexico	268,952	44.7	64,817	24.1
Hispanics born in other Latin American countries	79,524	13.0	19,165	
Hispanics born in other countries	3,762	0.6	907	

Sources: Decennial Census, PUMS, 2000; ACS, 2004; SCHS, Health Data and Vital Statistics, 1988-2004; Center for Immigration and Naturalization, 2004.

As demonstrated by the data, the general immigration trends of Hispanics to the United States and to North Carolina have shown dramatic increases in recent decades, and a good number of Latinos, both immigrants and those born in the United States and in North Carolina have attained at least some level of college education. The number of Latinos achieving a higher level of education has increased as well over the past couple of decades, although the number of Latinos that have finished college is comparatively less than the number of college graduates of other ethnic minorities as well as European Americans. This fact contributes to the finding that Latinos are generally the group in the U.S. with the lowest educational achievement, a trend that has been documented at length in pedagogical literature and has been labeled, "the hispanic achievement gap"[6]. The following table (Table 2.5), from the Pew Hispanic Center, shows the level of education reached by U.S. Latinos (labeled "Hispanic" on the table), European Americans (labeled

[6] Note that the achievement gap is a general trend discovered with standardized measures of achievement between students of different racial and ethnic groups a well as different socioeconomic classes. A significant difference in educational achievement has been documented with European American, Asian and those of a higher socioeconomic class generally performing better academically than their peers who are Latino, African American, Native American and of a lower socioeconomic class. James Coleman first documented this trend in his article "Equality of Educational Opportunity" (1966).

"White" on the table), African Americans (labeled "Black" on the table), Asian-Americans (labeled "Asian" on the table). An interesting point brought out in the data table is the fact that about an equal number of foreign born and native U.S. Latinos have attained a Bachelor's Degree and a good number more have had at least some college experience. As a reference point for the subject pool of this study, this table also indicates that the results are for the resident population aged 25 and older, which is older than the sample population of this study, but can be taken as indicative of the behavior of subsequent generations of Latinos in the U.S. This assumption is plausible, as much of the Latino population in the United States is much younger than the non-Latino white population of the U.S. In fact, in 2005, the median age for the Latino population, 27.6 years, was 9 years younger than the median age for the European American population (Tienda and Mitchell 2006). Given this information, it is likely that the number of Latinos who are of college age will increase, and, depending on the efforts of the national school system to reduce the achievement gap for Latino students, the number of Latinos enrolled in college will also increase. As the trend of increasing Latino enrollment in higher education institutions is a relatively new phenomenon in the U.S. Southeast, a closer look at the way that higher education impacts the speech of college age Latinos is sure to yield results that will be significant to the study of Latino English for many years to come. Figure 2.1 shows the age pyramid for the Latino population in the United States.

Table 2.5: Educational Attainment, by race and ethnicity, 2008[7]

Statistical Portrait of Hispanics in the United States, 2008

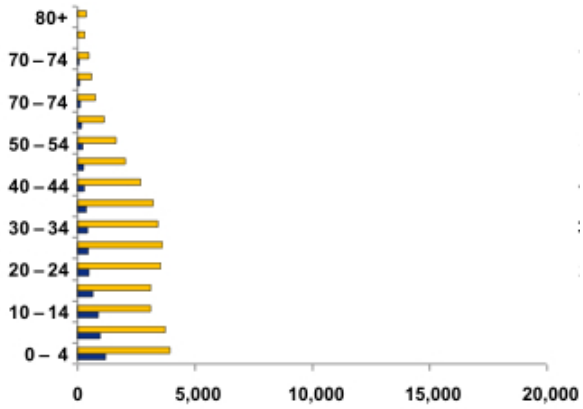
Table 21. Educational Attainment, by Race and Ethnicity: 2008

Universe: 2008 resident population ages 25 and older

	Less than 9th grade	9th to 12th grade	High school graduate	Some college	College graduate	Total
Hispanic	6,005,343	4,006,088	6,636,807	5,600,794	3,301,761	25,550,793
Native born	879,126	1,493,739	3,191,910	3,487,096	1,807,249	10,958,122
Foreign born	5,026,217	2,512,349	3,444,897	2,113,696	1,494,512	14,591,671
White alone, not Hispanic	4,447,343	9,377,752	40,848,554	41,798,317	42,772,727	139,244,693
Black alone, not Hispanic	1,253,404	3,000,015	7,018,591	7,056,062	3,886,478	22,214,548
Asian alone, not Hispanic	793,199	555,972	1,429,973	1,756,317	4,533,656	9,069,117
Other, not Hispanic	213,886	396,789	1,082,367	1,383,922	861,575	3,938,539
Total	12,713,175	17,336,616	57,016,292	57,595,412	55,356,195	200,017,690
Percent Distribution						
Hispanic	23.5	15.7	26.0	21.9	12.9	100.0
Native born	8.9	13.6	29.1	31.8	16.5	100.0
Foreign born	34.4	17.2	23.6	14.5	10.2	100.0
White alone, not Hispanic	3.2	6.7	29.3	30.0	30.7	100.0
Black alone, not Hispanic	5.6	13.5	31.6	31.8	17.5	100.0
Asian alone, not Hispanic	8.7	6.1	15.8	19.4	50.0	100.0
Other, not Hispanic	5.4	10.1	27.5	35.1	21.9	100.0
All	6.4	8.7	28.5	28.8	27.7	100.0

Note: "College graduate" refers to a person who has attained at least a bachelor's degree.
Source: Pew Hispanic Center tabulations of 2008 American Community Survey (1% IPUMS)

Figure 2.1: Age pyramid for the Latino population in the U.S. (2000)[8]



2.2 Latino English: Previous Studies

A great deal of sociolinguistic and ethnographic studies have focused on the variety of English spoken by Latinos in the U.S. Issues with taxonomy and classification of the variety of English spoken by the Latino population in the United States make summarizing the previous literature a formidable task in that a vast number of articles,

[7] Data source: U.S. Census Bureau American Community Survey 2008

[8] Source: Tienda, Marta and Faith Mitchell, eds. 2006. *Multiple Origins, Uncertain Destinies and the American Future.* Washington D.C: National Academy Press (Figure 4-3)

books, papers, conference proceedings, etc all deal with a similar topic, the English spoken by Latinos, but call it a different name based on grouping preferences (i.e. national heritage or association with a particular cultural movement, such as the Chicano Movement).

Up until the 1980's, the majority of the linguistic work done within the Latino community focused on their use of Spanish (Peñalosa 1980). The work done on Latino English generally focused on the English spoken by Mexican Americans and speculated that the English spoken by Mexican English-Spanish bilinguals and English monolinguals was merely some form of interlanguage that these English as second language learners use on their path to full acquisition of English (Metcalf 1974; Sawyer 1975; Peñalosa 1980; Gonzalez 1984; Penfield and Galicia 1985). This is contrary to the current definition of Mexican American English as a dialect spoken by monolingual English speakers of Mexican descent given by more recent studies[9]. Since the 1980's, many more descriptive studies have been conducted on the phonology of Latino English varieties as their own dialects of English (Santa Ana 1991; Mendoza-Denton 1997; Fought 1997; Fought 2003; Bayley and Santa Ana 2004; Wolfram, Carter and Moriello 2004) with some of those exploring the social function of particular phonological variables used in varieties of Latino English (Mendoza-Denton 1997; Fought 1997; Fought 2003; Wolfram, Carter and Moriello 2004). Of these, only Wolfram, Carter and Moriello's (2004) analysis of the production of the /aj/ diphthong among Hispanics in North Carolina considers a sociolinguistic analysis of Latino English in the Southeastern United States; the rest focus on Latino English on the west coast, southwest and along the Mexican-U.S.

[9] It should be noted, however, that as the immigrant communities in North Carolina are relatively new, the variety of English spoken by second-language learners is still in its formative stages of development (Wolfram, Carter and Moriello 2004). This means that speakers will vary in their production of English, negotiating between various levels of proficiency and the Standard English dialects of the area. However, among monolingual English speakers of Mexican descent, the influence of the lack of formativeness in the dialect of English that they speak would be minimal in comparison to the English spoken by Mexicans and those of Mexican descent who are learning English as a second language.

border. It is important to note as well that all of the studies mentioned above, with the exception of Wolfram, Carter and Moriello's 2004 analysis, only include data from Mexican American speakers, but previous sociolinguists have studied other varieties of Latino English. The other extensively studied variety of Latino English deals with New York Latino English spoken by the Puerto Rican community in New York (Wolfram 1974, Poplack 1978, Zentella 1997).

2.2.1 Latino English at a U.S. university: the University of Texas, El Paso

With the recent surge in the Latino population in the U.S. Southeast, and an increasing number of Latino students enrolling in colleges and universities, a study of the English spoken by this minority group could provide valuable insights on the future of English in the Southeast, particularly with respect to the increasing linguistic influence that Latino college graduates will have once they enter the professional workforce after graduation. There is a gap in the literature when it comes to the speech of Latino college students in the Southeast of the U.S., likely due to the fact that this population is relatively new and has only just recently received public attention as having a college presence throughout the region.

This gap in the literature does not exist to such an extent in other regions of the United States, in particular in the Southwest, where the Latino population has long received attention from academics of many disciplines, in particular those of the field of sociolinguistics. One such study of Latino college students in the Southwestern U.S. is Jacob Ornstein's 1976 study of Mexican-American students at the University of Texas at El Paso entitled, "A Cross-Disciplinary Sociolinguistic Investigation of Mexican-American Bilinguals/Biculturals at a U.S. Border University: Language and Social Parameters". The inspiration for Ornstein's project came from both the large number of

bilingual Mexican-American students in attendance at the university as well as the realization that this group needed to be differentiated from, "monolingual Anglos" , a comparison which, once detailed, would better describe the complexity of the social relationship between these two cultural groups at the university as well as in other states in the region (132). The specific goal of the study was to assess the language proficiency in both Southwest English and Spanish as well as to assess the attitudes each speaker had regarding the dialects that they spoke. The study found that of these Mexican American students, more were proficient in English, both written and oral, than in Spanish. The study also tested each participant's (in this segment of the study, both European Americans and Mexican Americans) opinion on the type of Spanish used in the area, as well as each participant's personal assessment of the types of both Spanish and English that they were most proficient in. Possible answers were, "formal, educated", "informal, everyday", "Southwest dialect", "border slang", and "cannot handle". The general results were that there was, "...enormous confusion...regarding the status of regional varieties" (142). Specifically, most Mexican American respondents claimed that the dialect of Spanish used in the area was anything other than "formal, educated", while most bilinguals self-assessed[10] their own idiolect of Spanish as being either "formal, educated" or "informal, everyday" (143). Furthermore, most of the bilingual respondents felt the dialect of English they used was "formal, educated" versus a significantly lower number that self-classified their English as "informal, everyday" (143).

Despite the confusing nature of the organization of the article, and the inconclusive nature of the results (the author mentioned many times that, "data was still

[10] Ornstein graphically categorized the two measures (assessment of Spanish in the region and personal assessment of idiolect used) in two different ways. In the first, the groups tested were "Anglo" and "Mexican American". In the second, the groups included were "monolinguals" and "bilinguals". It is unclear whether the categorization in the second set of groups parallels that in the first set, so the original terminology from the visual representations included in the study will be used.

being analyzed"), this study constitutes one of the only studies available in sociolinguistic literature on the speech of the Mexican American college student community. In that light, the augmenting number of Latinos in the Southeast and elsewhere in the United States, and the increasing presence of the Latino community on college campuses nationwide warrants sociolinguistic research, if not to fill the gap in academic literature, then to examine an increasingly prevalent dialect contact situation.

2.2.2 Towards a definition of Latino English

In order to begin a discussion of Latino English and how it is used in the Southeastern United States, and in North Carolina in particular, it is necessary first to discuss the parameters that are needed in order to define a dialect of English as Latino. First, one would need to know specifically what information is to be included in the definition of "latino", as this term could be interpreted as describing the ethnicity of a great variety of people with varied nationalities, not just those from the Spanish-speaking regions of South America. Second, one must know what linguistic features go into defining a particular dialect of English as Latino, in order to be able to compare the speech of a specific community in question with traits that may or may not identify the speakers as speakers of that particular dialect.

The first task at hand includes defining the particular ethnic and national backgrounds included in the term "latino". According to the Oxford English Dictionary, a Latino is, " a Latin American inhabitant of the United States." This definition, for could therefore be extended to the term Latino English to refer to the English spoken by Latin American inhabitants of the United States.

What this paper refers to as Latino English has in fact been the focus of many previous sociolinguistic studies in the United States. In particular, most of the

sociolinguistic studies have focused on the geographic region of the Southwestern U.S. where the Latino population has been a prominent and influential fixture since well before the formation of the current-day United States of America. The variety of Spanish influenced English spoken by Latinos in this part of the United States as been labeled Vernacular Chicano English (Bills 1977) and Chicano English (Metcalf 1972, Peñalosa 1985, Godinez and Maddieson 1985, Santa Ana 1993, Fought 2003, Santa Ana and Bailey 2004). Some authors have even used an even more specific label derived from the country of origin of the Latino population in question, as is the case with Mexican-American English (Thompson 1975) and Puerto Rican English (PRE) (Wolfram 1974, Poplack 1978). The latter two designations, of course, could refer to the English spoken by groups of speakers of one particular national heritage (in this case Mexican or Puerto Rican) that live anywhere in the United States. With so many different names and types, it is difficult to pull a general overarching definition for Latino English out of the literature. A good starting point, however, would be to begin with the definition of Chicano English, as the literature describing this labeled variety is rich and varied and will help, at least, in the task of choosing basic characteristics that will help to distinguish this variety of English from those that are not influenced by Spanish.

One of the earliest definitions of Chicano English (CE) describes it as, "...simply an imperfect state in the mastery of English," (Sawyer 1969). While at the time it was a seemingly accurate description of the state of CE, Sawyer's definition fails to recognize the fact that Chicano English was then being spoken as a first, and in many cases only language of Mexican-Americans living in California. Recognizing this fact, Alan Metcalf later put forth a new definition of the dialect, explaining that Chicano English is:

> ...a variety of English that is obviously influenced by Spanish and that has low prestige in most circles, but that nevertheless is independent of Spanish and is the first, and often only, language of many hundreds of thousands of residents of

California. (1974: 53)

As the body of research on Chicano English expanded, the geographical scope of this definition was extended to include this type of English as it is spoken throughout the Southwest, not just in California. Currently, the definition of CE accepted by most sociolinguists is that of Otto Santa Ana (1993):

> Chicano English is an ethnic dialect that children acquire as they acquire English in the barrio or other ethnic social setting during their language acquisition period. Chicano English is to be distinguished from the English of second-language learners...Thus defined, Chicano English is spoken only by native English speakers. (1993: 15).

While this definition is a very precise one in linguistic terms, it does not explain precisely who Chicano English speakers are in terms of their heritage.

Many of the Latinos who are in North Carolina do not come from only one country in Latin America. There are Latinos whose ethnic heritage stems from many Latin American countries such as the Central American countries of Guatemala, Honduras and El Salvador as well as the Caribbean countries of Cuba, Puerto Rico and the Dominican Republic, as the OED definition of Latino indicates. The definition of Latino, however, is more complicated than the OED would have one think as it involves a complex process of cultural self-identification that involves cultural heritage, language and personal preference of cultural self-identification. During the course of this project, one of the interview questions posited to the participants involved the definition of Latino and the "proper" application of the label. Most, if not all respondents generally agreed that it was a fairly subjective term that depended mainly on each person's own interpretation of the meaning. When pressed for more specific parameters that define the label Latino, a wide variety of answers were provided, ranging from absolute requirements of being able to speak Spanish fluently, mandatory participation in and

familiarity with all things Latino (music, dance, food, television, movies) and parents from a Latin American country to the opposite, no Spanish language requirement and no need to participate and be familiar with all things Latino. The common denominator was, however, that, in order to be a Latino, one must have parentage that is Latin American, either one or both parents. This common denominator, then, is what was incorporated into the definition of Latino English for the purposes of this project: the English spoken by native English speakers who have at least one parent from a Hispanophone Latin American country. Also, for the purposes of this paper, I will adopt a definition of Latino English that encompasses the geographic flexibility of the OED definition of *latino*, the definitions given to me by interview respondents, as well as a segment of Santa Ana's definition of Chicano English, specifically, that the dialect is one spoken by native English speakers. Therefore, in identifying the particulars of national origin of those who could be considered speakers of Latino English, for the purposes of this paper, Latino English is an ethnic dialect spoken natively by those of Latin American descent living in the United States. The following section will attend to the second task noted at the beginning of this section, namely that of the identification of particular linguistic characteristics that might help to differentiate a dialect of English as being Latino rather than any other dialect of English (Scottish, Southern American, Canadian, etc.)

2.2.3 Latino English: General Characteristics?

The second task that is necessary to complete in order to precisely define an ethnic dialect of a language, besides determining the ethnicity and national affiliation of a group of speakers, would be to provide the linguistic characteristics that separate this dialect from others present in the same area. A whole host of studies provide interminable lists of linguistic features found to be characteristic of different varieties of Latino English.

The vast majority, however, classify the variety of English being documented as not just Latino, but also by ethnic group and even nationality (Puerto Rican, Chicano, etc.) as well as geographic location within the United States, varying in size from region down to state and in some cases, city. This particular feature makes it quite difficult to come up with a singular list of solely defining characteristics of Latino English. This same problem is also noted in the literature about the most widely studied and documented variety of Latino English, Chicano English. Chicano English is the native dialect of English spoken by Mexican Americans living in the United States, generally attributed to those Mexican Americans living in southern California. Otto Santa Ana and Robert Bailey (2004) note that a "pan-ChcE (Chicano English) linguistic variable" has yet to be identified, and attribute this to the paucity of sociolinguistic research on the dialect (419). Santa Ana and Bailey (2004) do, however, provide a list of linguistic characteristics that help to differentiate Chicano English from local dialect norms saying that ChcE is more monopthongal (particularly with high vowels /i/ and /u/), it is articulated with a greater vowel space overlap of front vowels (particularly front tense vowels), that it has a different system of vowel reduction (no reduction in high peripheral vowels, mid vowels reduce infrequently) and has several linguistic variables that signal Chicano community identities (*-ing* studies of Galindo (1987) and Mendoza Denton (1997), /u/ fronting among ChcE speakers and European Americans in L.A. Fought (2003)) (419). This list, although incomplete, does provide some indication of linguistic variables on which to focus when trying to identify whether or not a speaker is in fact using Latino English. Despite this rather general list of linguistic characteristics that might help to classify a particular dialect of English as Latino, speakers will not exclusively use one set of linguistic characteristics that academic literature has deemed characteristic of their particular ethnic group just because they might members of said ethnic group. This fact

makes it difficult to determine which linguistic characteristics are particular to just the speakers of that ethnic dialect, which linguistic characteristics of that particular ethnic dialect have been assimilated from other ethnic dialects (if this has in fact occurred), or even, for a particular speaker or group of speakers from the same ethnic group, which ethnic dialect them might be using, be it one traditionally associated with their own particular ethnic group or one associated with another ethnic group in the same region. Carmen Fought (2003) touches upon this issue regarding a particular informant:

> Sylvia, for example, is a speaker who fronts /u/ very heavily and is in my subjective opinion one of the more standard sounding speakers...however, I immediately noticed features characteristic of Chicano English, for example the substitution of stops for initial interdental fricatives...or the use of a tense vowel in the morphological ending *-ing*. (91).

Clearly then, a binary system of classification where the researcher separates the speakers into two groups: one that speaks Latino English and one that does not (or that conforms more to the standards of the European American community) will not suffice when studying a community of speakers. Instead, keeping in mind the possibility that speakers will incorporate local and ethnic variants into their speech and avoiding the tendency to oversimplify the classification would better represent the complexities of language use within any given community.

Within the sample population that participated in this study, although the speakers might not all have been Mexican American, or Chicano English speakers, all self-identified as Latino, a fact that is reflected in the demographic analysis provided earlier in this chapter. Furthermore, many of the speakers exhibited linguistic features characterized in the descriptive literature on Chicano English, such as frequent lack of glides, tense realization of /ɪ/, substitution of stops for interdental fricatives, consonant cluster reduction and realization of /z/ as [s]. The following sections provide an overview

of the phonology of some of the characteristics of the speakers from the sample, notably those that coincide with the list of characteristics given in Fought's 2003 analysis, but also drawing on features ascribed to varieties of Latino English as documented in other investigations on the topic (Thompson 1975; Peñalosa 1980; Santa Ana 1991).

2.2.3.1 Vowels

The first phonological characteristic to be discussed that is generally attributed to speakers of varieties of Latino English is the frequent lack of glides. The tendency of Latino speakers to pronounce vowels monophthongally is mentioned in the literature, particularly in Otto Santa Ana's 1991 analysis of Mexican American English and in Fought's 2003 analysis of Chicano English speakers in Los Angeles. In Fought's sample, the high vowels, pronounced [ij] and [uw] by the European American population in her sample were pronounced without the glide more often than not (64). The same was true for the sample population in this study, with a monophthongal production of the high front vowel /i/ being realized as [i] more often than the high back vowel being realized as [u]. The mid vowels, noted by Fought to be pronounced as diphthongs [ej] and [ow] by European American speakers, were realized by the Chicano English speakers of the study as monophthongs [e] and [o] only occasionally, and pronounced as diphthongs more often than the high vowels mentioned previously. The same was true of the Latino speakers included in this study, although it should be noted that among the speakers who identified themselves less with Latino culture and who spoke Spanish less frequently and with an impressionistically lower level of fluency produced diphthongal vowels more frequently than those speakers who identified more with Latino culture and who spoke Spanish more frequently.

Another feature noted in the literature on various types of Latino English is less

frequent vowel reduction in unstressed syllables among Latino English speakers. This feature has been noted in Santa Ana (1991) and Fought (2003), particularly with high vowels /i/ and /u/. In this study, a couple of examples arose showing vowels in unstressed syllables that were not reduced, such as civilization realized as [sɪvɪlɪsejʃɪn] or position, realized as [posɪʃɪn]. Pronunciations of this type were heard in a few of the interviews particularly with speakers that self-reported a high level of fluency in Spanish and claimed to speak Spanish almost exclusively at home. Also mentioned in the literature on the various types of Latino English, particularly in Fought (2003), is the pronunciation of the /aj/ diphthong, which in Southern American English can be pronounced with or without the glide (including a range of pronunciations in between of differing ratios of nucleus to off-glide), but in the European American English dialect of southern California the glide is normally conserved. Fought notes that the pronunciation of the diphthong showed no loss of the glide among European American and Latino speakers of the area (65). This was not the case for the speakers in the sample population of this study. Many of the speakers impressionistically pronounced the sequence of phonemes as more monophthongal, regardless of the amount of time the speaker had spent in North Carolina, a trait consistent with the analysis presented in Wolfram, Carter and Moriello's 2004 study of "Hispanic English" in central North Carolina. This monphthongal pronunciation also was heard with speakers of varying levels of ethnic identification with Latino culture as well as among speakers with varying frequencies of use of Spanish.

2.2.3.2 Consonants

Fought's (2003) analysis also documents various characteristics of the pronunciation of consonants by the Latinos in her sample. The first characteristic noted is the substitution of stops [t d] for interdental fricatives [θ ð]. Fought provides a list of

examples that include substitutions of both the voiced and voiceless phoneme both word initially and word-medially (all in syllable onset position) (68). Among the speakers included in the study covered in this paper, only the substitution of [d] for [ð] was noted, and this only appeared word-initially, as in that [dæt] and the [di]. To my knowledge, this feature is generally not characteristic of European American speakers in North Carolina, but has been documented as a characteristic of African American English speech (Labov, Cohen, Roberts and Lewis 1968; Wolfram 1994; Dubois and Horvath 1998; Bailey and Thomas 1998; Mufwene 1998; Rickford 1999). The appearance of this substitution in the sample population of this study would seem to indicate that perhaps that the speakers exhibiting this pronunciation may have accommodated this feature from the African American English dialect, which agrees with the conclusions of Walt Wolfram's 1974 study of Puerto Rican English speakers in New York City[11]. This is highly possible, especially considering that the speakers displaying this variant said that, besides the Latino community, they relate more to the African American community on campus than to any other community on campus, majority or minority. That said, one speaker, who noted that the vast majority of the peer group that they spent the most time with was mainly African American, and who claimed to relate more to African Americans than to any other ethnic group on campus did not substitute stops for interdental fricatives, voiced or voiceless in any position in the word nor did this subject exhibit any other phonological features traditionally associated with African American English. These results could indicate the possibility that the variation in realization of an interdental

[11] Wolfram's study found that an even higher level of substitution of stops for fricatives among this particular groups of PRE speakers than in the speech of the AAE speakers of the area. Furthermore, those PRE speakers with a higher number of African American peers showed an even higher level of substitution than those PRE speakers with comparatively lower numbers of African American peers (Wolfram 1974: 129). Fought (2003) suggests that even thought this feature found in PRE (and also Chicano English) may not originate due to contact with AAE speakers, it may be reinforced through contact. This could be also the case with the speakers in this study that exhibited this linguistic trait (Fought 2003: 87).

fricative as a stop may be explained by another factor other than the association with members of a particular ethnic group, such as gender or social class and would be another linguistic feature worth of more formal sociolinguistic analysis.

Another feature noted in the literature as a linguistic characteristic of speakers of English of Latino (particularly Chicano) descent is consonant cluster reduction, in particular, that of word-final /t/ or /d/ after a consonant. This feature has been noted in the literature on Chicano English (Wald 1984; Santa Ana 1991; Fought 2003). Fought's analysis shows that the deletion of /t/ and /d/ word-finally is quite common in the Chicano English speakers she interviewed (69). This feature was quite rare, however present, among a handful of the speakers interviewed at UNC for this study, and examples mainly included the deletion of the voiceless stop /t/ in word final position next to a sibilant, such as in the word first [fɹs].

Another feature not documented as a characteristic of the speakers included in Fought (2003) analysis, but noted in the studies on Chicano English done by Peñalosa (1980) and Thompson (1975) is the devoicing of /z/ word-finally. This devoiced pronunciation was found among a couple of the speakers at UNC word-medially, such as for example in the words civilization [sɪvɪlɪsejʃɪn] or position [posɪʃɪn]. This pronunciation is not found in the European American English dialect of North Carolina or the African American English dialect and is generally thought to be unique to Latino English. Fought, however, suggests that the discrepancy in the literature as to whether or not /z/ devoicing is a characteristic of Chicano English (or any other dialect of Latino English, for that matter) could be due to lack of separation of non-native English speakers from native English speakers on the part of Peñalosa and Thompson as this characteristic is associated with non-native English speakers. In the case of the study included in this paper, this is not the case as all of the speakers speak English as a native language. This

variation between the speakers in this study and the results of previous studies documented in sociolinguistic literature indicates that this feature is worth examining in detail in order to determine the social factors that might govern its use among Latino English speakers.

Although establishing Latino English as a unique dialect of English is not without problems and dispute, a comparison between the features identified in previous publications on varieties Latino English and the features exhibited in the speech of the Latinos identified in this study helps to classify the variety of English as one that is distinct from other dialects of English present in North Carolina, particularly that of the ethnic majority, Southern American English.

CHAPTER III

AFRICAN AMERICAN ENGLISH, THE DIVERGENCE CONTROVERSY AND ETHNIC MINORITY DIALECTS OF ENGLISH

3.1 Background: The Divergence Controversy and AAE

Perhaps the original controversy regarding whether or not Standard American English linguistic norms influence ethnic dialects of American English is the Divergence Controversy in regard to African American English (AAE). This controversy, generally, discusses the possibility that AAE has grown away from SAE in previous decades. This is a significant change, according to these linguists, because it is a reversal of a historical trend where African American vernaculars were decreolizing over the course of several centuries (Butters 1989). Proponents of the Divergence Hypothesis (Labov 1985, Labov 1987, Bailey and Maynor 1989) assert that AAE speakers do not participate in the sounds changes found among SAE speakers, and that at that time there was, "...evidence of new [AAE] grammatical features, reinterpretations of features of other dialects, and combined divergence of the tense, mood and aspect system" (Labov 1987: 6). The linguistic features frequently cited as evidence in favor of the Divergence Hypothesis are: habitual *be* (Bailey and Maynor 1989), absence of postvocalic /r/ among AAE speakers in the Southeast (Bailey and Maynor 1989), and the lack of fronting of back vowels /u/, /ʊ/ and /o/ among AAE speakers in the Southeast (Bailey and Maynor 1989) among others. Supporters of this view also acknowledge that this divergence is related to influential social issues and historical events such as the Great Migration and subsequent de facto economic and social segregation which resulted in, "...the formation of separate black speech communities which have only marginal interaction with white communities and

which operate with distinct speech acts and events with distinct linguistic norms," (Bailey and Maynor 1987a: 467).

Linguists in favor of convergence, or, in other words, who oppose the Divergence Hypothesis, routinely site the lack of concrete evidence in favor of the Divergence Hypothesis (Wolfram 1987, Rickford 1987, Spears 1987). Interestingly, critics of the Divergence Hypothesis also take the same evidence cited by proponents of the Divergence Hypothesis and argue that it is in fact evidence to the contrary, or, evidence supporting linguistic convergence (Vaughn-Cooke 1987, Butters and Nix 1986, Butters 1987a, Butters 1987b). Features frequently cited as evidence contradictory to the claims of the Divergence Hypothesis are: final consonant cluster simplification (Butters 1987c, Wolfram 1969), postvocalic /r/ loss (Vaughn-Cooke 1987) and invariant *be* (Vaughn Cooke 1987) among others.

If the Divergence Controversy is extended to other varieties of American English, such as, for example, Latino English, perhaps a similar type of argument could be construed, pending further data on the dialect. In any case, the aim of this paper is to show that other cultural factors other than race may influence the dialect of a particular ethnic minority; in this case, the effect a university education has on the speech of Latino English speakers.

3.2 Implications of the Divergence Controversy: Other Ethnic Minority Dialects

Little in the way of published sociolinguistic research has explicitly dealt with whether or not local majority dialect sound changes can be found in minority ethnic dialects such as Latino English or Native American English. In the case of Latino English, this could be attributed to the fact that the stable language communities are comparatively young with respect to AAE dialect communities in the same areas. That

said, a countable number of studies have been conducted on the minority ethnic dialect which this paper refers to as Latino English.

Poplack (1978) is one such study of a bilingual community of Puerto Rican American middle school students in Philadelphia. In this study, Poplack demonstrated that the way that Puerto Rican English (PRE) patterned was not in fact consistent with the assumptions of Labov and others in that the PRE exhibited certain sound changes characteristic of the local European American community as well as the local African American English community. Interestingly the study results demonstrated that sex was the main determinant of which dialect the PRE speakers patterned most with: males were more likely to exhibit a higher percentage of AAE features than females and females were more likely to exhibit a higher percentage of the local standard (the English spoken by European Americans in Philadelphia).

This study is notable, in terms of previous research, namely Wolfram's 1974 study of Puerto Rican English in New York City. In this study, Wolfram concluded that PRE speakers' English would exhibit the dialect features of the ethnic community that they spent the most time with, either the AAE, European American or PRE community. Contrary to Wolfram's (1974) study of Puerto Rican English speakers in New York City, however, the PRE speakers in Poplack's study lived in a neighborhood that was mainly populated with PRE speakers and European Americans, they spent time with PRE speakers at their school, which itself only had two AAE speakers. Additionally, the AAE features exhibited in the PRE speakers' speech were not ones already found in PRE. Poplack's study was one of the first to demonstrate that not only can a minority ethnic dialect pattern with the local majority dialect norms and that this pattern can vary along social categories (such as male and female) but also that, at least in the case of the PRE spoken by these children, dialect influence can come from outside the home community

and that the emergence of any of the dialect features is not solely determined by the dialect's status as one that is spoken by a minority ethnic group. Other studies that have also demonstrated that minority ethnic dialects can not only pattern after local majority dialect norms but also can pattern differently from other minority ethnic dialects, such as AAE are Fought's 1997 and 2003 studies of Mexican American English speakers in Los Angeles and Wolfram and Dannenberg's 1999 study of Lumbee Native American English. The second study demonstrated that the English of the Lumbee Native American community in Robeson County, North Carolina exhibited a fronted /o/ pronunciation which is typical of the local European American community. This finding is also of importance to this thesis as it shows that even within the state of North Carolina, minority ethnic groups can exhibit dialect pronunciations that are in line with the local norms.

CHAPTER IV

THE STUDY: SPEECH COMMUNITY, METHODOLOGY AND DATA

4.1 The Big Picture: Chapel Hill and UNC Chapel Hill

The Latino community examined in this study comes from the undergraduate student body population of UNC Chapel Hill, located in Chapel Hill, North Carolina. The participants in the study come from a wide variety of Latino ethnic backgrounds and include students of Mexican, Colombian, Cuban, Venezuelan, Central American and Puerto Rican heritage. Participants from varying ethnic backgrounds were included in order to provide a sample group that would better represent the actual Latino demographics of the UNC Chapel Hill student body.

Chapel Hill, North Carolina is a tiny college town located along Interstate 40 about 25 miles west of Durham, NC. The town, founded in 1793, had the primary purpose of serving the faculty and student body of the University of North Carolina founded that same year. As of 2008, the population estimates of Chapel Hill and neighboring town Carrboro hovers around 75,000-80,000 residents, with about 4,000 of those residents identifying themselves as Hispanic/Latino (U.S. Census Bureau).

4.1.1. Latino Students at UNC Chapel Hill

The Latino community of undergraduate students at UNC Chapel Hill is quite sizeable. Fall 2009 enrollment shows that the Latino undergraduate population on UNC Chapel Hill's campus is around 943 students of a total of 16,705, or about 5.6% of the undergraduate student body population. Of those, 597, or about 3.6% of the total undergraduate student body population, are NC residents and are eligible to take part in

this particular study based on recruitment criteria. Participants in the study were required to be Latino (one parent from a non-European Spanish speaking country), native English speakers, undergraduates at UNC Chapel Hill, between the ages of 18 and 23, were required to be from NC (or have spent at least the last 6-10 years in NC) and were required to be Legal Permanent Residents of the U.S. or U.S. Citizens. Table 4.0 provides the demographic information for Latinos at UNC Chapel Hill that were eligible for the study. Note that even though the demographic information provided by UNC's Office of the Registrar was not detailed enough to delimit specific length of residency in NC, it is assumed that those classified as NC residents were likely born in NC, or had lived in NC long enough to declare residency.

Table 4.0: Undergraduate Latino population at UNC Chapel Hill

Sex	**Classification**				**Total**
	Freshman	***Sophomore***	***Junior***	***Senior***	
F	81	78	90	98	347
M	70	58	65	57	250
Total	151	155	136	155	597

4.2 Methodology

4.2.1 Interview Subjects

The subjects for this study were primarily recruited through personal student and faculty contacts at the university. Additional subjects were recruited via the snowball ("friend of a friend") method. Of the 597 total students at UNC who were eligible for the study, 21 were interviewed. Of those 21, only the interviews of 18 were eligible for analysis, as it was discovered during the interviews that 3 of the subjects were in fact non-native English speakers and had spent their childhoods in a Spanish-speaking country. Examining the backgrounds of each subject indicates the potentially complex and varied

heritage of the Latino community at UNC as well as in North Carolina. The following table gives the demographic breakdown for each speaker.

Table 4.1: Sample population demographics

Speaker number	Age/Sex	Length of Residence (years)	Country of Birth (Mother)	Country of Birth (Father)
1	18M	15	Mexico	USA
2	18F	12	USA	Puerto Rico
3	18F	7	El Salvador	Guatemala
4	19M	19	Mexico	Mexico
5	19M	16	Puerto Rico	Dominican Republic
6	19F	19	Puerto Rico	Puerto Rico
7	19F	12	Mexico	USA
8	19F	17	Nicaragua	El Salvador
9	19F	12	Mexico	Mexico
10	20F	8	Bolivia	USA
11	20F	7	Mexico	Mexico
12	20F	15	Puerto Rico	Puerto Rico
13	21F	6	Colombia	Colombia
14	21M	21	Colombia	Colombia
15	23M	16	USA	Mexico
16	21F	21	Mexico	USA
17	22F	20	Colombia	USA
18	22M	6	S. Korea	Puerto Rico

One potential issue with the sample demographics with regard to the acquisition of regional dialectal variant is the fact that particular speakers have spent as little as six years living in North Carolina. This fact may result in those speakers being much less likely to have been exposed to the dialectal variant in question than those who have spent most of their lives in the area. While this issue is definitely a concern, various factors prompted the inclusion of these subjects into the subject pool for this study, such as the fact that the Latino community is much younger than Latino populations in other parts of the U.S. (such as the Southwest), as well as the fact that previous studies on dialect acquisition have shown that even recent immigrants to an area are able to pick up local

dialect variants and display them in their speech (Munro 1999). In Munro's 1999 perceptual study of the production of local dialect variants of Canadian immigrants in Alabama, even Canadian speakers who had been living in Alabama for less than 6 years were recognized by some native Alabamans as sounding somewhat like a native Alabaman, although obviously they were rated as less native sounding than those Canadians who had been living their for more years. Also, Payne's (1980) study of dialect acquisition among children shows that phonetically conditioned structures are easier to acquire than other types of linguistically conditioned phenomena, including the fronting and centralization of /o/. The fact that LOR is somewhat influential but does not completely determine whether or not a speaker is able to acquire local dialect variants, coupled with the fact that the longstanding Latino population in North Carolina is relatively new and smaller than Latino communities elsewhere in the U.S., a supports the inclusion of the subjects who have not spent most of their lives in North Carolina in order to portray a more realistic image of the current state of Latino English in the area.

4.2.2 Materials and Data Collection

Each informant was interviewed once and the interview was recorded using a digitized recorder. Originally, the intention was to interview the subjects in pairs, so that the speech productions will not be affected as much by the ethnic dialectal differences between the interviewer and the interviewees. Difficulty in locating subjects who were willing to participate, however, resulted in individual interviews. This feature, however, makes the results of this study comparable to previous studies such as Fought (2003) and Wolfram, Carter and Moriello (2004), as most were carried out with individual interviews[12]. Each interview lasted 45-75 minutes, in order to assure that examples of

[12] As an unfortunate consequence of conducting interviews individually, it is possible that the speech elicited from the participants will not be the most casual style as I am not a member of the speech

casual speech were captured. Types of questions that were asked focused on topics relating to daily life experiences, home life, perceptions of their own ethnic group and their perceptions and interactions with other communities on the college campus. The final task required the participants to fill out an adapted version of the Multigroup Ethnic Identity Measure (MEIM) developed by J.S. Phinney (1992) in order to assess the ethnic identity of each participant.

4.2.3 Data Collection and Processing

The interview subjects were recorded using a Marantz-660PMD solid-state recorder and Samson C03 condenser tabletop microphone. The interviews were conducted in a quiet, empty classroom, which was chosen because it is a familiar, neutral setting for the college student and would help facilitate relaxed speech. Each interview was recorded at a sampling rate of 44.1kHz, transferred to a computer and saved in .wav format and then downsampled to 10kHz for analysis.

Between 25-30 tokens of /o/ were taken for analysis and 5 tokens each of /i/ and /ɑ/ were extracted for the purposes of normalization and constructing the vowel space, yielding roughly around 700, tokens total 520 of which were of /o/. The tokens were extracted well into the interview about 10 minutes in, during narrative passages in order to ensure an analysis of the most vernacular speech possible. In order to better analyze a clear formant structure, only vowels that received primary or secondary stress were considered in order to avoid measurement of vowels that would typically reduce, a trait characteristic of unstressed syllables in polysyllabic words of American English. Also, tokens produced during overlapping speech, laughter or other non-speech noise was

community that the participants are a part of, a fact which may cause the speaker to feel uncomfortable and not provide samples of the most casual speech. This is known formally as the Observer's Paradox, a term coined by sociolinguist William Labov as a result of his 1966 survey of NYC speakers.

excluded from the analysis. Praat for Windows (Boersma and Weenink, 2007) was used for the analysis and measurement of formants from the interviews, along with Akustyk LPC[13] interval analysis (Plichta 2006). The maximum formant was set to 5500Hz for women and 5000Hz for men with a sample rate of 10000Hz, an analysis width of 0.0256s and 256 sample points. The prediction order was set between 9 and 12[14], determined in part by the frequency range being analyzed (in this case between 5000Hz and 5500Hz) and the number of formants expected (half the sampling rate of 10000Hz/2=5000Hz, so about 4-5 formants), the vocal tract length of the speaker and the appropriateness of the initial tested measurements. The "Quick LPC" option was first used in order to determine the adequate prediction order for each speaker to make sure the results were within the expected range for both formant and bandwidth values for the vowels, with any bandwidth over 400Hz signifying a likely erroneous estimation by the model (Ladefoged 2003). In general, the female speakers' interviews were analyzed using a filter order of 9 or 10 and the male speakers' using a filter order of 11 or 12. Once the proper prediction order was established for each speaker, an interval analysis of the entire vowel was conducted. Measurements of the first and second formant were taken from the steady state of the onset of the vowel for diphthongs (or wherever the first and second formant varied less than 10Hz from one measurement to the next) and the steady state of the nucleus of the vowel for monophthongs and then checked manually for accuracy and adjusted as needed. In order to control for physiological effects on speech production, the formant measurements were normalized using a similar methodology as used in Lew-Hall

[13] LPC or "Liner Predictive Coding" is an algorithm used to find the broad spectral peaks within a given sound by, "...calculating 'predictor' coefficients in a linear combination with waveform samples...these coefficients define a filter...which approximates the vocal tract filter function" (Johnson 97). Furthermore, "the LPC spectrum shows the global shape of the spectrum regardless of the specific frequencies of the harmonics" (Johnson 99). This is useful when analyzing waveforms of speakers that may produce different harmonic frequencies caused by differences in F_0 (fundamental frequency, or the rate at which the vocal folds vibrate, which differs on average between males and females).

[14] The default prediction order is calculated as twice the predicted number of formants plus 2.

(ms), Dodsworth (2005) and Majors (2004). This method of normalization analysis required the comparison of tokens of /o/ with the average value for /i/. These measurements facilitate a normalization of each speaker's production of /o/ with respect to their own vowel space and help to control differences in formant frequencies caused by physiological differences mostly between males and females. The normalized measurements were then plotted on a vowel chart, showing the location of the individual vowel tokens within each speaker's overall vowel space. Finally, any correlations between linguistic and social variables were calculated statistically using GOLDVARB in order to determine their significance primarily through examining the factor weight and significance of each factor group and factor.

4.3 Presentation of Data

This section contains the theoretical and quantitative information pertinent to the analysis of Latino English at UNC Chapel Hill. The general points that will be discussed will be the practical, theoretical and historical basis for the linguistic and sociological variables chosen, general patterns of fronting at UNC Chapel Hill, specific description of the technique of vowel normalization used in this study and the phonetic variation observed at UNC Chapel Hill. Within the last section, general trends and patterns with respect to /o/ fronting will be described, as well as resultant interacting social factors and their effects on the data analysis, a formal statistical analysis of the interaction between the linguistic and sociological factors and finally the implications of the results.

4.3.1 Linguistic Variables

As mentioned in the introduction, the main goal of sociolinguistics is to explain the linguistic variability that is inherent in everyday language use and how this variability

relates to society. These manifestations of linguistic variability that have an effect on the way a listener judges a speaker are called, variants and variables but are more specifically known as markers. William Labov (1972) defines markers as, "more highly developed sociolinguistic variables," that show social distribution and stylistic variation (237). Dominic Watt (2006) defines markers as, "...variables close to the speakers' level of conscious awareness which may have a role in class stratification and which are subject to style shifting," (6). Thus, markers are variables that play an important role in defining the speaker's identity, both to the speaker himself and to the listener, and since they are "close to the speakers' level of consciousness", may be manipulated in order to create the particular linguistic identity that the speaker wishes to portray to the public. In order to identify variables and markers and the role that they play within a given society or community, a detailed investigation must be carried out in which a researcher systematically studies the linguistic and social influences that influence the production of a certain linguistic variant.

Any sociolinguistic study consists of identifying a particular linguistic variable in a given linguistic context and quantifying the occurrence or non-occurrence of the linguistic variable among different groups of speakers (Milroy and Milroy 1997). The different variants of linguistic variables should be variants of some underlying linguistic element, whether it is at the phonological level or the syntactic one (Milroy and Milroy 61). The first task then, is to generalize a rule that conditions the appearance of the particular variant or variants (Wolfram and Fasold 1975). It should be noted for the linguistic variable, that just like allophones, which are necessarily conditioned by the environment in which they appear, variants of a variable may also occur when certain linguistic factors are present in the environment. This tendency, however, is just that, and the presence of a variant must not be necessarily conditioned by the linguistic

environment in the same the way an allophone is (Chambers 18). Therefore, special attention must be paid to the linguistic environment in which a variant appears when conducting a sociolinguistic study.

Once the linguistic variables and their conditioning environments have been identified, their frequency can be quantified based on a corpus of data gathered from recorded interviews. If a variable has two variants, the frequency of appearance of one or the other can be quantified with percentages (Chambers 18). If it has more, the variants must be counted proportionately with associated probabilities (Chambers 18). Identification of the basic and non-standard variants with respect to a given community is also important. According to Trudgill (1974), the basic variant is the one that occurs in the standard dialect of speech that is being examined. Identification of basic and non-standard variants in this manner helps the researcher to quantify and correlate the appearance of a particular linguistic variant to social categories. In sociolinguistics, being able to correlate linguistic variation as the dependent variable with an independent variable (linguistic environment, style and social categories such as sex, age, ethnicity and social class) is the main task (Chambers 18).

Within the scope of this particular study is the measure of the relative fronting of /o/ in the speech of Latino English college students at UNC Chapel Hill. The appearance of the fronted /o/ is characteristic of the Southeastern region of the U.S. so much so that it, along with other vowel shifts characteristic of the region have been denominated as the Southern Vowel Shift. This shift is a chain shift which sees the raising and gliding of front lax vowels /ɪ/ and /ɛ/, the lowering and backing of high front tense vowels /i/ and /e/ (or /ej/), which still preserve their gliding character, and the fronting of the high (/u/) and mid back (/o/) tense vowels (Labov 1991).

With respect to the fronting of /o/, this is a phenomenon that has been documented

in the literature as being characteristic of the speech of European Americans in the Southeast. As documented by Ronald Butters (1989), "By the 1970's, however, the shift of /u/, and to a somewhat lesser extent, /o/ and /ʊ/ was well under way in Southern White Speech" (48). The appearance of this linguistic trait among African Americans and European Americans in Wilmington North Carolina has also been studied and documented in linguistic literature by Erik Thomas (1989), who names the state of North Carolina as one of the three main "centers" from which this use seems to be spreading (327). Furthermore, Thomas summarizes that there are two rules put forth by Labov, the first which states that, "...non-peripheral vowels tend to fall; and back vowels move to the front" and that, "...where the fronting rule operates, it affects both the onset and the offglide of /o/" (327, quoted in Thomas 1989). The tendency of back vowels to move forward is noted by Valerie Fridland (2006) as being ascribed to physiological reasons, specifically that there is only a certain amount of space in the back of the mouth to produce back vowel sounds and also that English has a high number of back vowel sounds (4). Due to the need to reduce the high level of back vowel sounds the pronunciation for these vowels comes forward, where there is more space for vowel production, a phenomenon commonly known as drift (4). Thomas' (1989) study showed that this "drift" also could affect the speech of ethnic minorities: one African American informant displayed a very high degree of /o/ fronting as well as other linguistic traits characteristic of European American speech (331). This trend was also noted in Ronald Butters' (1989) study on African American English, where the same informant was noted to: feel as if he related more to European Americans in high school, be a college student, and have a large number of personal contacts that were European American in his place of work (56). The results of Butters' and Thomas' studies indicate that /o/ fronting among the Latino sample population of students at UNC is possible, particularly if they seem to

identify with the local European American majority, a factor that could be explained and represented with the social factors discussed in the following section.

4.3.2 Sociological Variables

Linguistic markers can also be correlated with social characteristics. These include social class, sex, age and ethnicity, among others. According to Chambers, the first three social characteristics are the primary determinants of social roles (7). This paper will examine the last three social characteristics and their relationship to the linguistic variable in question within the sample population of UNC Latino students.

Sex is a common social characteristic with which sociolinguistic markers can be correlated. Sex, the biological differences between masculinity and femininity, should be differentiated from gender, which is the sociology of masculinity and femininity defined by an individual (Chambers 117-118). As it relates to language, sex differences and how they correlate to different ways of speaking depend on the culture being examined. Both Labov (1984) and Trudgill (1972) generally associate women's speech with a greater orientation towards community prestige norms than men. Trudgill attributed this to the notion that overt prestige norms are generally associated with refined qualities and standardness, and since society does not allow women to advance their position, they must use their symbolic resources to do so, one of which is language (Eckert 214). Labov (1984) found that in Philadelphia, women's speech was defined by a contradiction: that women are more conservative in their use of stable variables but less conservative in their use of changes in progress and that in some cases, women lead men in some changes but not in others. Labov (1984) attempted to explain this in terms of prestige, saying that women's use of stable variables was defined by global prestige norms and that their use of variables which are the results of changes in progress are due to the influence that the

local prestige that these variants have on their linguistic behavior. This is basically an interpretation that states women are bound by the desire to ascend a hierarchical construction of social status. Penelope Eckert agrees with these notions to a point, but indicates that they are too simplistic and cannot accurately define how women use language to create an identity for themselves within a given society (217). Eckert states that the innovative linguistic behavior of women can be in part explained by their need to assert their membership in all of the communities in which they participate, "...since it is their authority, rather than their power in that community, that assures their membership," (217). There are also differences related to age in the way that men and women express their membership and power within certain communities. In general, linguistic differences examined between the different sexes increases during the life stages in which social custom dictates that males and females should have less contact with one another (Cameron 2005). According to Cameron, relative to the middle age groups, linguistic differences based on sex tend to increase (i.e. during early childhood, adolescence and old age) (27).

Age is another major social characteristic identified by Chambers with which sociolinguistic markers are normally correlated. According to Wolfram and Fasold, there are two different ways in which age can be viewed: age differences that relate to generational differences and differences that relate to age grading. Age grading refers to linguistic behaviors that are appropriate for certain stages in the life of an individual (Wolfram and Fasold 89). As for the generational changes, each successive generation retains most of the linguistic characteristics of the one before, while including new language patterns characteristic of their youth (89). Linguistic changes that occur generationally can be examined through an apparent time analysis, which is used to examine changes in progress. An apparent time analysis examines different generations

of speakers at one point in time as a reflection of how a language changes within a specific community over time (89). On the other hand, when the linguistic variable is related to a particular age group, the linguistic variable is said to be subject to age grading. In general, adolescents use socially stigmatized forms more than any other age group and their speech tends to pattern after members of their peer group instead of being dependent on the speech of their parents or members of the same social class (Wolfram and Fasold 91). Furthermore, adolescence is also the time when speakers are exposed to and tend to acquire various styles of speech that are common among adult speakers (91). It follows, then, that the greatest deal of variability in style as well as linguistic production among adolescents in a given community. Adulthood sees the greatest amount of stylistic variation (or ability to navigate between different styles of speech), until the point in which the person's status has become relatively fixed, at which time stylistic variation begins to diminish, a characteristic true for all social classes (91).

This paper will examine age as a product of class year at UNC, namely a basic division between first and second year students (traditionally known as "underclassmen") and third and fourth year students (traditionally known as "upperclassmen"). This division was chosen as normally, for students, there is a certain period of adjustment to college life that occurs in the first two years. They must become acclimated to living away from parents and managing their own schedules. Most of the older respondents in the study, the upperclassmen, volunteered the information that it took some time to get used to living at college and to a certain degree, for some students they achieved a certain degree of freedom (i.e. living off campus, getting a job, etc) after their first couple of years at school. This division is perhaps overly simplistic, but as the age range for the sample groups only varies by 5 years at the most, and the binary division coincides with a natural division in the level of maturity of college students, the categories seem apt to

compare the speakers with respect to age.

The last significant social variable mentioned is ethnicity. For the purposes of this paper, the concept of ethnicity requires further discussion and definition due to the important role it plays for the subjects of this experiment. Fishman (2006) defines ethnicity as a constellation of various acts and cultural practices and participation therein centered on the concept of "paternity" (24). Paternity refers to the, "...heredity...derived from the origined putative ancestors of a collectivity and passed on from generation to generation in a bio kinship sense" (25). This biologically determined belonging to a particular ethnicity is not more important and does not function exclusively to the detriment of cultural practices and acts in its creation. Fishman also notes that there may be "escape hatches", through which the acquisition of a certain ethnicity is possible, especially for those who may not have it, or may only have it in part due to mixed parentage (25). These "escape hatches" can be reached through the concepts of "ethnic patrimony" and "ethnic phenomenology". The former refers to the learned cultural practices (such as religious celebrations, dances, food) and the latter refers to the meanings attached to both the biological ancestry and the cultural practices observed by a person (27-30). Within the scope of these definitions, Fishman notes that, "...it becomes clearer why language is more likely than most symbols of ethnicity to become the symbol of ethnicity. Language is the recorder of paternity, the expresser of patrimony and the carrier of phenomenology...Anything can become symbolic of ethnicity (whether food, dress, shelter, land tenure, artifacts, work, patterns of worship), but since language is the prime symbol system to begin with and since it is commonly relied upon so heavily (even if not exclusively) to enact, celebrate and 'call forth' all ethnic activity, the likelihood that it will be recognized and singled out as symbolic of ethnicity is great indeed" (32)

When it comes to ethnicity, the more integrated a particular ethnic group is with

the dominant culture, the less significant the factor of ethnicity is in explaining language differences and changes within that particular ethnic community (Wolfram and Fasold 94). Also important to consider is how integrated particular members of an ethnic group are with their own ethnic group. The less contact particular member has with members of their own particular ethnic group, the less likely they are to share linguistic characteristics with them (Wolfram and Fasold 95). The importance of ethnicity and types of contact was underscored by Wolfram's 1974 study of English of second-generation Puerto Ricans in Harlem. In this study, the amount of contact that second-generation Puerto Ricans had with community members who spoke African American English (AAE) correlated positively with the likelihood that they would produce utterances with linguistic characteristics consistent with AAE instead of with Puerto Rican English, Standard American English or even Puerto Rican Spanish. Also, in Labov's 1966 study of Jewish and Italian communities in New York, it was found that in the vowel system there was also a substratum influence of the languages spoken by previous generations within the same community. These two case studies illustrate the importance of the contact that members of a certain ethnic group have with other ethnic groups (Wolfram 1974) as well as previous generations of the same ethnic group (Labov 1966).

With respect to the sample population of this study, ethnicity and ethnic identification through language is essential to the understanding of the data as all of the students involved are either of mixed parentage or are constantly in contact with others who are of a different heritage. For all of the speakers, proficiency in a language other than English, in this case Spanish, was crucial to their self identities: all of those who were not already fluent in Spanish were taking classes to learn and a placed a high level of importance on acquiring this linguistic knowledge successfully.

4.3.2.1 Ethnic identity: The Multi-Ethnic Identity Measure (Phinney 1992)

Ethnicity is the most difficult common social variable to study in that it's definition is variable and its measurement is extremely difficult. This difficulty according to Fought (2006), may be attributed to the fact that ethnicity is a socially constructed category, it cannot be studied or understood outside of the context of other social variables, and that it also includes self-identification and the perceptions and attitudes of others (4-6). Therefore, all of these qualities attributed to the construction of one's ethnic identity are immeasurable, that is, they cannot be represented quantitatively. Needless to say, ethnicity is still an important factor with regard to language use.

There are a multitude surveys and methods that have been used to measure ethnic identity (Parham and Helms, 1981; Garcia, 1982; Zak, 1973; Constantinou & Harvey, 1985; Ting-Toomey, 1981) but the one used in this study is the Multigroup Ethnic Identity Measure (MEIM) developed by Jean Phinney (1992). This study has been administered successfully among ethnically diverse college students, with a reliability coefficient (Cronbach's alpha) of .90. This measure was chosen for a variety of reasons in addition to it's statistical reliability, but mainly because the results could be compared if administered to various ethnic groups, a factor not true of the measures developed by the scientists cited previously). Phinney (1992) cites factors that are common to all ethnic groups when navigating their identity such as, "...self-identification as a group member, a sense of belonging, and attitudes towards one's group" (158).

The first of these, identification as a group member, is different than Fishman's (2006) concept of "paternity" in that it, "...refers to the ethnic label one uses for oneself" (158). This concept may be completely different from one's ethnicity (which Phinney defines as Fishman's "paternity", or group membership determined by parentage) and is therefore important to identify in order to guide the researcher in whether not to classify a

particular subject as a member of a particular ethnic group. Self-identification with a particular ethnic identity is not a binary classification. Phinney notes also that people may differ in the level of identification they feel they have with their group as well as the cultural practices associated with that group (159). As this is a very important consideration taken into account by Phinney's MEIM, it is one reason why it was chosen for this study.

The second set of factors involved in self-identity is ethnic behaviors and practices. Phinney identifies the two general points associated with these factors as participation in social activities with members of one's own group and involvement in cultural traditions, both of which are included in the MEIM. These notions correspond with Fishman's (2006) notion of "ethnic patrimony", or the participation in the cultural practices of one's ethnic group, including the use of a particular language. For the sample population of this study, one particularly important practice is the knowledge and use of Spanish, acknowledged by many scientists, Phinney included, as an important part of ethnic identity in Latino communities. Language use, considered by Phinney as an indicator if ethnic identity, is not included in this study as comparisons to other ethnic groups who do not place any importance on language cannot be made. In order to compensate for this gap in the survey, participants were asked about their use of both Spanish and English in the home and with friends during the interview. This information was incorporated into the study as an independent variable and will be discussed further in §4.3.4.3 below.

The final set of factors involved in ethnic identity are, "...feeling of belonging to an ethnic group and attitudes toward the group" (Phinney 159). These correspond with Fishman's (2006) notions of "ethnic phenomenology", or the meanings one associates with the cultural practices of the particular group to which they belong as well as views

and opinions on the group itself. Phinney's measure focuses on "ethnic pride", or the positive feelings one has with regard to one's ethnic identity (159).

Used in this study, the MEIM is an attempt to quantify what Fought (2006) describes as an unquantifiable variable. Each question has an answer, followed by a number 1-4 in increasing order corresponding to the level of agreement or disagreement with the corresponding statement. The recommended method of analysis is to sum all of the scores from each question and take the average in order to attain the ethnic identity of the respondent. For the purposes of this study, only questions pertaining to participation in cultural practices (including groups and activities considered Latino) as well as interest in learning more about one's own Latino culture. Results of this measure among the study participants will be detailed further in §4.3.4.3.

4.3.3 Introduction to General Results

In the following sections, the previously discussed variables will be analyzed and presented in order to reveal any patterns of sociological variables with the linguistic variable of /o/ fronting. As an impressionistic analysis, the data revealed that some of the speakers, all of which self-identified as some sort of Latino ethnicity, did display fronting of /o/ to some degree. This is surprising when considering Labov's (2001) claim about ethnic minorities and non-use of linguistic variables characteristic of the majority speech community. Within the interviews themselves, I was surprised at times to hear monophthongization of the linguistic variable in question as well as with the high vowels /i/ and /u/, characteristics of Chicano English generalized by Otto Santa Ana and Robert Bayley (2004). I also heard linguistic features noted by Carmen Fought (2003) in her study of Mexican Americans in Los Angeles, namely tense realization of /ɪ/ as [i], the substitution of the interdental fricative /ð/ with the alveolar stop [d] and consonant cluster

reduction, particularly the loss of final /t/ before another consonant (64-9). At the same time, certain speakers, particularly those who had lived in North Carolina for longer, would at times realize the diphthong /aj/ in [maj] as a monophthong [mɑ] and the tense vowel /i/ as in [fil] *feel* as [fil], features consistent of speakers participating in the Southern Vowel Shift. While this study only examines the use of /o/ among these Latino speakers, an impressionistic look at the interviews reveals the possibility of a good deal of interesting data that could be gathered from them.

4.3.4 /o/ fronting in Latino English at UNC Chapel Hill

4.3.4.1 Introduction

As mentioned in the previous section, certain interviewees produced fronted /o/ tokens while others did not. The decision as to whether or not to classify a token as fronted is not definitive and required certain considerations. Valerie Fridland (2006) provides a very detailed analysis of /u/, /ʊ/ and /o/ fronting among African Americans and European Americans in Memphis, Tennessee. She notes that research from acoustic phonetics can reveal how the linguistic environment in which a vowel appears can greatly affect formant frequency measurement. For example, if /o/ appears after a velar, the spectrogram for the F2 will show a decrease in that formant during consonant to vowel transition, which also applies to alveolar consonants (18). Bilabial stop vowel sequences, on the other hand, will show a rising second formant during consonant to vowel transition as bilabial stops have a lower F2 value (18). Friedland notes that the research of Liberman & Cooper (1955) suggests that the F2 starting frequency for /b/ is around 600-800Hz and about 1800Hz for /d/ (18). She also notes that, "when coupled with a back vowel with a low F2 frequency, the transition from the consonant's F2 range to the vowel's F2 range is bound to influence that vowel's second formant value..." (18). She

goes on to say that "...a back vowel transitioning from a consonant with a high F2 value will be the most likely candidate for fronting..." and that, "...back vowels following consonants with low F2 frequencies will be more resistant to fronting" (18). Fridland also summarizes that when many tokens of the same vowel have fronted in different environments (and perhaps to differing degrees), "...speakers may reanalyze the appropriate frequency range for that vowel class as a whole, shifting the F2 range so that even previously resistant tokens are fronted" (18). This suggests that phonetic conditioning is not the only factor involved in the fronting of back vowels and that social factors must also come into play. While these factors were considered when obtaining vowel measurements, a detailed analysis of the effect of the phonetic conditioning will not be addressed in this paper. Instead, a presentation of two individual speakers will be used to illustrate the extremes of variation in the location of /o/ on the F2 axis.

Comparing the vowel plots of Speakers 15 and 18 illustrates the variation of the location of /o/ along the F2 axis. Speaker 15 (Figure 4.0) shows a high level of /o/ fronting, while Speaker 18 (Figure 4.1) does not. Both have approximately the same number of tokens after alveolar stops, which is the most favored environment for fronting. Speaker 15's /o/ tokens, however, are well in front of /ɑ/ and in the center of the vowel space. Speaker 18's /o/ tokens, on the other hand fall in around the same F2 range as the /ɑ/ tokens produced. As basic analysis at this level yields notable F2 variation in this community, further sociolinguistic analysis of this variable will yield a more conclusive explanation.

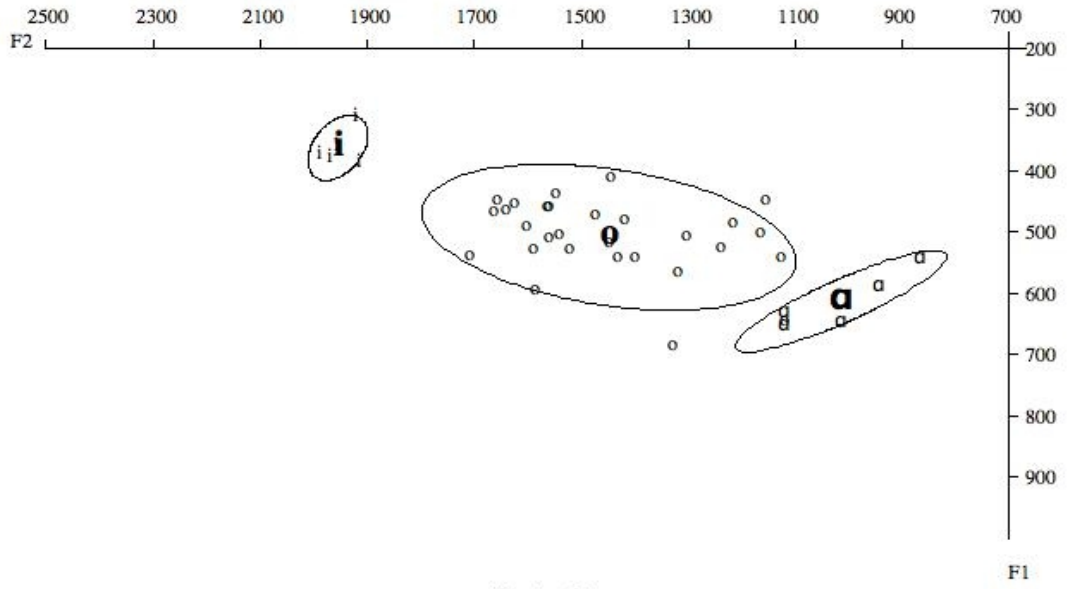


Figure 4.0 Speaker 15: Selected vowels

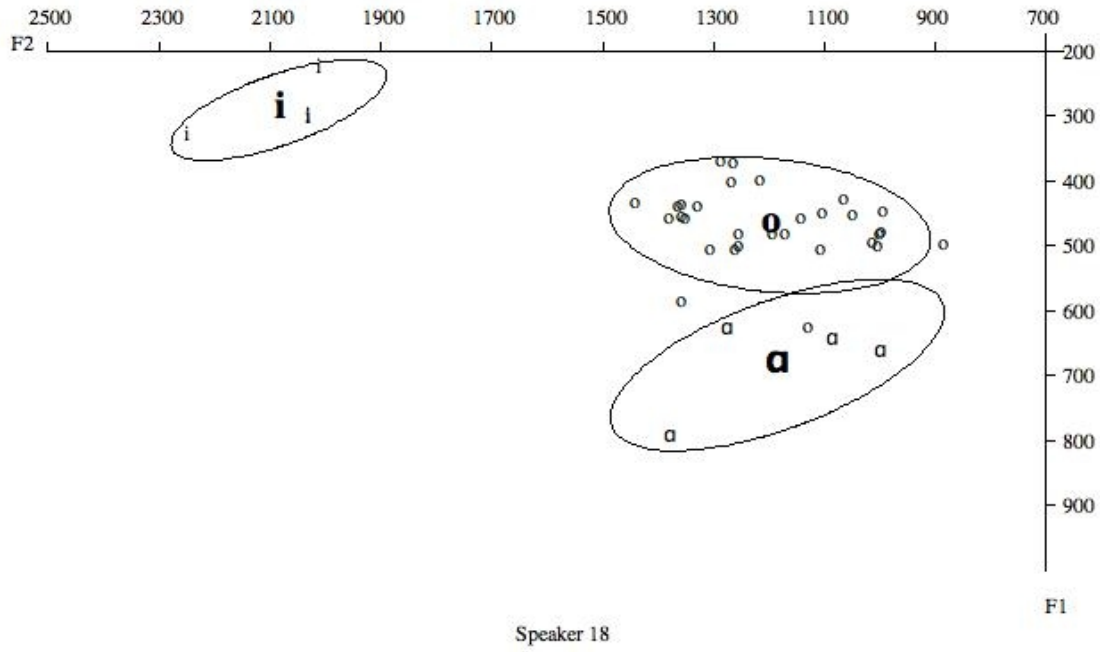


Figure 4.1 Speaker 18: Selected vowels

4.3.4.2 Normalization

Physiological differences in vocal tract size, among other things, make it necessary to normalize the raw /o/ fronting data. These differences are most apparent when comparing speakers of different sexes. For example, the male speakers in the study have a mean frequency for F2 of /i/ of 2139 Hz with a standard deviation of 134 Hz while the female speakers have a mean frequency for F2 of /i/ of 2602Hz with a standard deviation of 192 Hz. This difference underscores the necessity of normalization of the F2 measurements for /o/ in order to be able to compare them across speakers without skewing the data due to physiological reasons.

The method of normalization employed in this paper is similar to the method used in Hall-Lew (ms), Dodsworth (2005) and Majors (2004)[15]. This method of chosen because it yielded fronting percentages that facilitated a binary classification of an /o/ token as either fronted or not fronted, as the GOLDVARB statistical analysis only allows for categorical variables, dependent or independent. The vowel chosen for normalization

[15] Originally, the method of normalization used with the data generated from the interviews was the same as used by Fought (2003) in order to be able to compare the results from this study with hers. In this method, the mean F2values for /i/ and /ɑ/ were calculated for each speaker. Then the F2 for each value of /o/ for that speaker was divided by the mean value of /i/, generating a set of ratios which represent the closeness of each token of /o/ to /i/ within that particular speaker's vowel system:

$$o_{NORM/i/} = o / i_{MEAN}$$

The same was done with /ɑ/: the mean value was calculated for each speaker, which was then used as the divisor for each F2 value of /o/ in order to generate a set of ratios which represent the closeness of each /o/ token to /ɑ/, relative to the /ɑ/ space of that speaker's vowel system:

$$o_{NORM/ɑ/} = o / ɑ_{MEAN}$$

In Fought's (2003) analysis, these normalized formant values were then analyzed statistically using a Generalized Linear Model (Analysis of Variance) in order to determine which of the social factors (or combinations of social factors) best explained the dependent variable in question. In the study conducted in this paper, a Univariate Analysis of Variance (UNIANOVA) was conducted on the dependent and independent variables after first determining the Person correlation coefficient and significance values (from 1 tailed t-test) for each independent variable with respect to both independent variable normalization methods. The dependent variable was normalized using the method noted above and the rest of the data was either coded in a binary fashion (as was the case for sex, class year and heritage) or left as continuous (as was the case with age, MEIM and length of residence). The results of the Univariate Analysis of Variance found that none of the independent variables (or combinations thereof) correlated with the dependent variable (either normalized value) at a significant level ($p<0.05$). This may be due to the method of normalization or, more likely, the small number of study participants involved. For this reason, GOLDVARB, a program that is comparatively less sensitive to a smaller sample size, was used in the analysis.

were /i/ as /i/ is subject to less social variation across speakers than other vowels (Fought 2003). Also, the quantal theory of speech (Stevens 1972) also posits that there are stable regions within the rage of speech sounds called "quantal regions", of which the point vowels /i/, /ɑ/, and /u/ are a part of and that they should show less variability among productions of the same vowel than non-point vowels (Bradlow 1994). Furthermore, through examining the maps in Labov's (2006) analysis of the Southern Vowel Shift, the reversal /i/ and/ɪ/ is less frequent in the North Carolina samples than for samples taken elsewhere in the Southeast (248-50). Lastly, the variation in /i/ among the speakers in the study varied relatively little and in most cases was realized as a monophthong, facilitating extraction and measurement.

In this study, only the F2 of the vowels was analyzed as F1 varied much less in this sample and didn't seem to affect fronting of /o/. For each speaker, the mean of the F2 for the vowel /i/ was calculated. Then, the lowest F2 of /o/ elicited for each speaker was identified and subtracted from the mean F2 of /i/ for that speaker, yielding a fronting range for that particular speaker. This calculation is represented with the following formula, where $i_{MEAN\ F2}$ is the mean of F2 for all tokens of /i/ for a particular speaker and where o_{F2BACK} is the /o/ token with the lowest F2 for that same speaker:

$$\text{fronting range} = i_{MEAN\ F2} - o_{F2BACK}$$

This fronting range was then used to calculate a ratio yielding the percent fronting for each particular speaker according to the front/back dimension of their particular vowel space. This calculation is represented in the following formula, where o F2 is one individual token of /o/ elicited by a particular speaker, o_{F2BACK} is the /o/ token with the lowest F2 for that same speaker and where "fronting range" is the difference between the mean F2 of /i/ for that speaker, and the o_{F2BACK} for that particular speaker (as calculated in the previous formula):

$$\% \text{ /o/ fronting} = (\text{o F2}) - o_{F2BACK} / \text{fronting range}$$

Then, in order to be able to divide the fronting scores into two discrete categories, those tokens that were fronted and those that were not, the % /o/ fronting score for the male and female speaker who elicited little to no fronted /o/ tokens was calculated using the same formula as above, with a slight variation in that the (o F2) chosen was the /o/ token that was fronted the most for these speakers. This calculation is represented in the following formula, where $o_{F2FRONT}$ is the /o/ token with the highest F2 value for that particular speaker, o_{F2BACK} is the /o/ token with the lowest F2 for that same speaker and where "fronting range" is the difference between the mean F2 of /i/ for that speaker, and the o_{F2BACK} for that particular speaker (as calculated in the first formula):

$$\% \text{ /o/ fronting} = o_{F2FRONT} - o_{F2BACK} / \text{fronting range}$$

This calculation gave a benchmark of % /o/ fronting, one for male speakers and the other for female speakers, that would serve to classify the fronting scores in the following manner: those tokens with % fronting scores higher than the benchmark for that particular sex were counted as fronted tokens, and those with % fronting scores that were either equal to or less than the benchmark for that particular sex were counted as non-fronted tokens.

For the sample of speakers included in the study, Speaker 8 (female) and Speaker 18 (male) did produce fronted tokens of /o/, just at a much lower frequency on average than the other speakers in the study. Also, the standard deviations of the F2 of /o/ for both speakers was relatively low, much lower in fact, than the averages for the males and females in the study. Therefore, they were chosen for the fronting benchmark for the males and females in the sample. Table 4.2 shows the percent of each speaker's tokens of /o/ that were fronted, along with the variables that will be tested in the statistical analysis in the following section.

Table 4.2: Percent of fronted tokens by speaker, sorted by frequency

Speaker	%fronted[16]	Sex	Class year	LORNC	MEIM (EIS)	SAH
2	77%	F	L	1	0	0
12	63%	F	U	2	0	0
15	48%	M	U	2	0	0
16	43%	F	U	3	0	0
17	28%	F	U	3	0	0
4	23%	M	L	2	1	0
6	20%	F	L	2	1	1
1	19%	M	L	2	0	0
3	17%	M	L	1	1	1
14	11%	M	U	3	0	1
10	7%	F	L	1	1	0
7	4%	F	L	1	1	1
18	3%	M	U	1	1	0
5[17]	3%	M	L	2	1	1
13	0%	F	U	1	1	1
11	0%	F	U	1	1	1
9	0%	F	L	1	1	1
8	0%	F	L	2	0	1

Sex=(M)ale, (F)emale; Class year= (L)owerclassmen, (U)pperclassmen; LOR= 1: 6-12 years in NC, 2: 13-19 years in NC, 3: 20+years in NC; MEIM(EIS)= 0: 0-2.99 (less association Latino identity), 1: 3-4 (more association with Latino identity); SAH= 1: Always or usually, 0: rarely or never.

4.3.4.3 Phonetic Variation: Latino English at UNC Chapel Hill

Table 4.3 Shows the social factors and frequencies of /o/ fronting for all of the speakers in the sample. As explained in §4.3.1 and §4.3.2, the social factors chosen are class year, sex, MEIM (Ethnic Identity Search score), length of residence in North Carolina (LORNC) and use of Spanish in the home (SAH).

[16] The % fronted column refers to the percentage of fronted tokens of the total number of tokens measured for each speaker according to the method of classification mentioned above, not the average of the % fronting score for each speaker.

[17] Even though Speaker 5 and Speaker 18 fronted /o/ at the same percentage, Speaker 5 was not chosen for the benchmark for backing as Speaker 18 had a lower F2 average for /o/, 1199.567Hz versus 1325.414Hz.

Table 4.3 Factor groups, factors and frequencies of /o/ fronting for all speakers

Factor groups	Factor	%front (N)
Class year	Lowerclassmen Upperclassmen	17.5% (50) 24.6% (57)
Sex	Male Female	17.4% (35) 22.7% (72)
MEIM (EIS)	0-2.99 3.00-4	37.2% (86) 7.3% (21)
LORNC	6-12 yrs 13-19 yrs 20+years	13.7% (32) 26% (52) 27.1% (23)
SAH	Rarely or never Always or frequently	35% (91) 6.2% (16)

Based solely on frequencies of factors in the sample and not significance, upperclassmen lead lowerclassmen in fronting, as well as females over males, those who scored less than 3 on the MEIM over those who scored more than 3, those who spent more than twenty years in North Carolina followed by those who spent 13-19 years and those who spent 6-12 years, respectively and those who rarely or never speak Spanish at home versus those who frequently or always speak Spanish in the home.

The social features that GOLDVARB found significant in predicting the fronting of /o/ within the sample group are MEIM and SAH. Fronting of /o/ is most common among those speakers who scored lower than 3 on the average on the MEIM Ethnic Identity Search. This results holds true to the notions of ethnicity and language posited previously in §4.3.2, namely that, particularly for Latinos, language use is an important symbol of ethnic identity and therefore those Latinos who strongly identify with their ethnic background will display a lower percentage of local variants. Another grouping of speakers that exhibited higher levels of /o/ fronting are those who rarely or never speak Spanish in the home (SAH). This is a further confirmation of the importance of language (Spanish vs. English) in the creation of an ethnic identity within the Latino community.

Also tested for significance with regard to /o/ fronting in this particular community was the linguistic environment in which the token appeared. As all tokens were tested, each environment was noted and tested as a separate factor within each of the factor groups concerning preceding and following segments. Table 4.4 shows the factors, factor groups and frequencies for /o/ fronting of the sample population.

Table 4.4 Factors groups and factors: /o/ fronting

Factor groups	**Factors**	**%fronted (N)**
Preceding segment	Coronal consonant	23.5% (23.5)
	Dorsal consonant	38.5% (30)
	Labial consonant	0% (out of 79)
	[h]	0% (out of 6)
	none	9.1% (4)
Following segment	Coronal consonant	9.6% (17)
	Dorsal consonant	20% (6)
	Labial consonant	5.6% (2)
	none	29.9% (82)
Position in word	Non-final	9.1% (4)
	Final	10.6% (22)
		30.5% (81)
Nasal	None	20.3% (83)
	Before	7.7% (1)
	after	24% (23)
[l]	None	22.3% (107)
	Before	0% (out of 11)
	after	0% (out of 28)

The factor groups that GOLDVARB found significant are preceding segment and position in word. Interesting results here are that preceding and following dorsal segments, as well words where /o/ appears word finally are fronted more frequently than in other contexts. This coincides with Valerie Fridland's (2006) results that show that velar segments (which are dorsal), unspecified in position with respect to the vowel, show the most fronted tokens, followed by alveolar segments. Also interesting is that, [l] inhibits fronting, whether before or after the vowel also consistent with Fridland (2006). This variable, however, as it did not show any variation within the sample group could

therefore not be tested statistically with GOLDVARB.

The logistic regression analysis was conducted with GOLDVARB (Sankoff, Tagliamonte & Smith, 2005). GOLDVARB is a program that functions on the premise that linguistic variation is characterized by "structured heterogeneity" or that speakers' utterances are regularly constrained by both social and linguistic factors which reveal the organization of the grammatical system of a particular speaker within the communities to which the speaker belongs (Weinreich et al. 1968:99-100). This "structured heterogeneity" with respect to linguistic outputs in free variation can be represented by rules which vary due to contextual or sociological factors. GOLDVARB, using logistic regression, calculates factor weights, which express the likelihood of the occurrence of a variable in a particular context, be it linguistic or sociological. Factor weights that exceed .50 show that the particular context, or factor, favors the application value (the linguistic variant in question) and those less than .50 disfavor the application value. The program also provides the log likelihood, which is a numerical value assigned to represent the goodness of fit of the model to the data. Another important value is the input weight, which is the average tendency for the linguistic variant (application value) in question to be used in the data set as a whole. The application value for this particular model is fronted /o/. The following table gives the final regression results for the significant social and social factor groups and factors (recoded for significant factor groups and factors) with respect to /o/ fronting among Latinos at UNC Chapel Hill.

Factor groups	**Factors**	**Factor weight (input and weight)**
Preceding segment	Coronal consonant Dorsal consonant none	0.478 (0.12) 0.668 (0.24) 0.352 (0.08)
Position in word	Non-final Final	0.343 (0.07) 0.715 (0.28)
MEIM (EIS)	0-2.99 3.00-4	0.715 (0.28) 0.323 (0.07)

SAH (Spanish at Home)	Rarely or never Always or usually	0.690 (0.25) 0.309 (0.06)

Table 4.5 Final regression results for /o/ fronting, significant groups only. Application value = fronted /o/, Input = 0.133, Chi-square= 42.9833, Chi-square/cell= 1.6532, Log likelihood = -181.868

The results of this table show how both the significant linguistic and social factors explain the variation between fronted and non fronted tokens of /o/. However, when tested separately, the social factors had a log likelihood value slightly closer to 0 than the linguistic factors, indicating a slightly better fit of the social factors to the data than the linguistic factors. At any rate, the model that combines both social and linguistic factors shows the best fit to the data.

For the first factor group, "preceding segment" tokens of /o/ appearing after a dorsal consonant favor fronting, while those tokens which were word-initial disfavored fronting. Tokens following coronal consonants were slightly disfavored for fronting, although as the factor weight is very close to 0.5, it does not definitively indicate favoring or disfavoring fronting. These results are consistent with Fridland and Bartlett's (2006) results of a study on back vowel fronting in Tennessee mentioned previously.

For the second factor group, "position in word", /o/ tokens which appeared word-finally were highly favored for fronting, versus those in initial or medial position, which were disfavored for fronting. These results were consistent with Labov's (2010) analysis of /o/ fronting in the south from the TELSUR results as well as Baranowski's (2008) results of /o/ fronting in Charleston, South Carolina.

For the third factor group, MEIM (EIS), those participants who scored from 0 to 2.99 were much more likely than those who scored from 3.00-4 to front /o/. This shows that, at least for the sample population, a higher rate of identification with a Latino cultural group results in a lower rate of /o/ fronting. In the same fashion, the fourth factor

group SAH (Spanish at home), shows the tendency of those speakers who rarely or never use Spanish in the home to have a much higher tendency to display fronted tokens of /o/ than those who usually or always use Spanish in the home. This pattern indicates that there is some level of awareness among the speakers of the social value that the fronted /o/ variant carries, namely that higher rates of /o/ fronting are characteristic of those speakers who, despite being Latino, may not identify as strongly with their Latino heritage as the others in the sample group. This may be due to a variety of reasons (lack of exposure to Latino culture, lack of interest in learning about Latino culture, discrimination, etc.), but one thing is certain, at least for this sample group and that is that frequency of use of Spanish and of Latino ethnic identity partially predicts the level of /o/ fronting in the sample population. These results are quite consistent with the notions of language and ethnicity presented in §4.3.2, as well as Zentella's (1997) study of Puerto Ricans in New York, Fought's (2003) study of Mexican Americans in Los Angeles and Bailey's (2000) study of Dominican Americans in Rhode Island. In all of these studies, interview participants had a heightened sense of the relationship between language and ethnic identity: in the first two studies, fluency and use of Spanish, were emphasized as a significant determiner of ethnic identity and patrimony (to use Fishman's terminology) and the last study showed speaker's ability to classify others ethnically and racially based on speech patterns.

CHAPTER V

CONCLUSION

The original aim of this paper was to investigate whether or not UNC Chapel Hill students who self-identified as Latino would use a local vowel pronunciation characteristic of the speech of North Carolina, fronted /o/. The investigation showed that the students, both males and females, of varying ages, lengths of residence in North Carolina, levels of identification with Latino ethnicity and rates of use of Spanish, for the most part used the fronted variant to some extent.

With respect to the Divergence Controversy, the data demonstrates results to the contrary of the claims of the Divergence Hypothesis to a certain extent, as some of the speakers in the sample produced no fronted variants. Even though the appearance of just one variant characteristic of Southern American English is present in the speech of some of the Latinos in the study does not conclusively indicate convergence, if the results had patterned in such a way as to be consistent with the Divergence Hypothesis, none of the speakers who self-identified as Latino would have the fronted /o/ variant (or have used any of the other variants characteristic of the U.S. South such as the ones mentioned in §4.3.2. The fact that there was variation in the frequency of /o/ fronting among the speakers in the sample perhaps reflects the complex manner in which being a Latino college student in North Carolina relates to speech. In reality, it is likely that these speakers, as they both Latino and from North Carolina, are navigating the complex parameters surrounding their own multicultural identities. One such study that found similar results was Barett's (1999) study of African-American drag queens showed that

the interviewees used linguistic variants in such a way as to display their identification with being African-American, gay men and drag queens. Furthermore, Barrett notes that simply trying to explain the linguistic behaviors of a particular group with a set of "separate but cumulative" factors does not suffice and that speakers demonstrate "polyphonous identities" which are reflected in the use of a variety of linguistic norms characteristic of the wide variety of social groups that a particular person may relate to (or wish to seem that they relate to) always, or even just at that particular moment. In other words, linguistic identity does not have to be absolute for a single person throughout the lifespan, nor is there a requirement for each person to identify linguistically with just one particular ethnicity or lifestyle.

This study certainly opens up future possible avenues for linguistic research within this community. This possibility is certainly exciting, considering the possibilities of a new emergent dialect of American English, the recent population explosion among Latinos in North Carolina as well as the gap in the literature with respect to the Latino college student community. One specific study could include a more exhaustive analysis of the vowel system of Latino college students in North Carolina and how this relates to the vowel changes occurring in the Southern Vowel Shift. A study of this nature, in turn, could help to classify the variety of English spoken by Latinos, as well as move toward a more definitive answer with respect to whether or not the location of a pan-Latino English linguistic variable can be found. Furthermore, the results of a more extensive study of the vowel systems of native English speakers of Latino descent could then be compared to the results for Latinos of varying ages (to reveal incipient changes and potential crystallization of particular linguistic variants), as well as to the vowel systems of other ethnic groups present on college campuses (African-American, Asian, Native American, etc.), further locating the variety within the matrix of dialects of English that make up

American English. Through these potential avenues of research, a great deal of academic knowledge could be generated about the Latino community and how they use language to navigate the complex web of cultural and ethnic identities that are present in the United States.

APPENDIX

The Multi-Ethnic Group Identity Measure (Adapted from Phinney 1992)

ID:_____

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

--Please fill in: In terms of ethnic group, I consider myself to be _____

Circle the description which indicates how much you agree or disagree with each statement.

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

2. I am active in organizations or social groups that include mostly members of my own ethnic group.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

3. I have a clear sense of my ethnic background and what it means for me.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

4. I think a lot about how my life will be affected by my ethnic group membership.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

5. I am happy that I am a member of the group I belong to.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

6. I have a strong sense of belonging to my own ethnic group.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

7. I understand pretty well what my ethnic group membership means to me.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

8. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

9. I have a lot of pride in my ethnic group.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

10. I participate in cultural practices of my own group, such as special food, music, or customs.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

11. I feel a strong attachment towards my own ethnic group.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

12. I feel good about my cultural or ethnic background.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

13- My ethnicity is

(1) Asian or Asian American, including Chinese, Japanese, and others
(2) Black or African American
(3) Hispanic or Latino, including Mexican American, Central American, and others
(4) White, Caucasian, Anglo, European American; not Hispanic
(5) American Indian/Native American
(6) Mixed; Parents are from two different groups
(7) Other (write in): _____

14- My father's ethnicity is (use numbers above)
15- My mother's ethnicity is (use numbers above)

BIBLIOGRAPHY

Bailey, Benjamin. 2000. Language and negotiation of ethnic/racial identity among Dominican Americans. *Language in Society* 29: 555-82.

Bailey, Guy and Natalie Maynor. 1987a. Decreolization? *Language and Society* 16: 449-73.

-----.1989. The Divergence Controversy. *American Speech* 64: 12-39.

Barrett, Rusty. 1999. Indexing polyphonous identity in the speech of African American drag queens. In Bucholtz et. al., pp. 313-31.

Bayley, Robert; & Santa Ana, Otto. 2004. Chicano English grammar. In B. Kortmann, E. W. Schneider, K. Burridge, R. Mesthrie, & C. Upton (Eds.), *A handbook of varieties of English: Morphology and syntax* (Vol. 2, pp.167–183). Berlin: Mouton de Gruyter.

Bills, Garland D. 1977. Vernacular Chicano English: Dialect or interference? Journal of the Linguistic Association of the Southwest 2: 30-6.

Bradlow, Ann R. 1995. A comparative acoustic study of English and Spanish vowels. *Journal of the Acoustical Socitety of America* 97: 1916-1924.

Butters, Ronald R. 1987a. Linguistic Convergence in a North Carolina Community. In Denning, et al., eds. 52-60.

-----. 1987b. Verbal –s as past –time indication in various narratives." Proceedings from the UNC Linguistics Colloquium. Ed. Linda L. McIntyre. Chapel Hill: UNC Linguistics Circle, 9-18.

-----. 1987c. Are Black and White Vernaculars Diverging? Papers fron the NWAVE XIV Panel Discussion. *American Speech* 62: 3-80.

-----. 1989. *The Death of Black English: Divergence and Convergence in White and Black Vernaculars*. Frankfurt: Verlag Peter Lang.

Butters, Ronald R. and Ruth M. Nix. 1986. The English of Blacks in Wilmington, NC. In Montgomery and Bailey, eds. 255-64.

Cameron, Richard. 2005. Aging and Gendering. *Language in Society* 34: 23-61.

Chambers, J.K. 2003. *Sociolinguistic Theory*. Malden, Massachusets: Blackwell Publishing.

Coulmas, Florian. 1997. Introduction. In,. In Ed. Florian Coulmas *The Handbook of Sociolinguistics*. Blackwell Publishing: Malden, Massachusets, pp. 1-11.

Cutter, Donald and Iris Engstrand. *Quest for Empire: Spanish Settlement of the*

Southwest. Golden, CO: Fulcrum Publishing.

Dodsworth, Robin. 2005. Linguistic Variation and Sociological Consciousness. Ohio State University dissertation.

Eckert, Penelope, ed. 1991. *New Ways of Analyzing Sound Change*. San Diego: Academic Press.

Fishman, Joshua. 2006. *Language and Ethnicity in minority sociolinguistic perspective*. Philadelphia: Multilingual Matters, LTD.

Fought, Carmen. 1997. *The English and Spanish of Young Adult Chicanos*. IRCS report 97-09.

-----. 2003. *Chicano English in Context*. New York: Palgrave Macmillan.

-----. 2006. *Language and Ethnicity*. Cambridge: Cambridge University Press.

Fridland, Valerie and Kathy Bartlett. 2006. The social and linguistic conditioning of back vowel fronting across ethnic groups in Memphis, Tennessee. *English Language and Linguistics* 10: 1-22.

Galindo, Letticia D. 1987. Linguistic influence and variation of the English of Chicano adolescents in Austin, Texas. PhD dissertation, University of Texas at Austin.

Godinez, M. & Maddieson, I. 1985. Vowel differences between Chicano and general Californian English. *International Journal of the Sociology of Language*. 43-58.

Gonzalez, Gustavo. 1980. The range of Chicano English. In. Jacob Ornstein-Galicia (ed.) *Form and Function in Chicano English*. Rowley, MA: Newbury House.

Hall-Lew, Lauren (ms) The Western vowel shift in northern Arizona. Unpublished manuscript. Stanford University.

Johnson, Keith. 2003. *Acoustic and Auditory Phonetics*. Malden, MA: Blackwell Publishing.

Kasarda, John. D., and James. H. Johnson, Jr. 2009. The economic impact of the Hispanic population on the state of North Carolina. Chapel Hill: University of North Carolina Press.

Labov, William. 1966. *The Social Stratification of English in New York City.* Washington D.C.: Center for Applied Linguistics.

-----. 1972. *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.

-----. 1984. Research methods of the project on linguistic change and variation. In J. Baugh & J. Sherzer, Eds., Language in use: Readings in sociolinguistics. Englewood Cliffs: Prentice Hall. 28-53.

-----. 1987. Are Black and White Vernaculars Diverging? Papers from the NWAVE XIV Panel Discussion.

-----. 1991. The three dialects of English. In P. Eckert, ed. *New Ways of Analyzing Sound Change*. New York: Academic Press. 1-44.

-----. 2001. *Principles of Linguistic Change* vol 2: *Social Factors*. Cambridge, MA: Blackwell Publishers.

-----. 2010. *Principles of Linguistic Change: Cognitive and cultural factors.* Massachusetts: Blackwell Publishing.

Labov, William, Sharon Ash and Charles Boburg. 2006. The Atlas of North American English. Walter de Gruyter.

Ladefoged, Peter. 2003. *Phonetic data analysis: an introduction to fieldwork and instrumental techniques*. Malden, MA: Blackwell Publishing.

Majors, Tivoli. 2004. Show-me vowels: Phonetic variation in MO. Paper presented at manuscript, Stanford University. MCWOP 10, Evanston, IL, October 30.

Mendoza-Denton, Norma. 1997. Chicana/Mexicana identity and linguistic variation: an ethnographic and sociolinguistic study of gang affiliation in an urban high school. Stanford University dissertation.

Metcalf, Alan. 1974. The Study of California Chicano English. *International Journal of the Sociology of Language* 2: 53-8.

Milroy, James and Leslie Milroy. 1997. " Varieties and Variation." In, *The Handbook of Sociolinguistics*. Ed. Florian Coulmas. Blackwell Publishing: Malden, Massachusets, pp. 47-64.

Munro, Murray J., Tracey Derwing and James Flege. 1999. Canadians in Alabama: a preceptual study of dialect acquisition in adults. *Journal of Phonetics* 27: 385-403.

Odem, Mary E. and Elaine Lacy. 2009. *Latino Immigrants and the Transformation of the U.S. South.* Athens: University of Georgia Press.

Ornstein, Jacob. 1976. A Cross-Disciplinary Sociolinguistic Investigation of Mexican-American Bilinguals/Biculturals at a U.S. Border University: Language and Social Parameters. *La Linguistique* 12: 131-45.

Payne, Arvilla C. 1980. Factors controlling the acquisition of the Philadelphia dialect by out-of-state children. In W. Labov, ed., Locating Language in Time and Space. New York: Academic Press, 143-178.

Peñalosa, Fernando. 1980. *Chicano sociolinguistics*: *A Brief Introduction.* Rowley,

MA: Newbury House.

Penfield, Joyce and Jacob Ornstein-Galicia (1985). *Chicano English: An Ethnic Contact Dialect. Varieties of English Around the World*, vol. 7. Amsterdam: John Benjamins.

Pew Hispanic Center, U.S. Census Bureau American Community Survey, 2008.

Phinney, J.S. 1992. "The Multigroup Ethnic Identity Measure: A new scale for use with diverse groups." *Journal of Adolescent Research* 7: 156-176.

Poplack, Shana. 1978. Dialect acquisition among Puerto Rican bilinguals. *Language in Society* 7: 89-103.

Rickford, John. 1987. Are Black and White Vernaculars Diverging? Papers from the NWAVE XIV Panel Discussion.

Santa Ana, Otto. 1991. Phonetic simplification processes in the English of the barrio: A cross-generational sociolinguistic study of the Chicanos of Los Angeles. University of Pennsylvania dissertation.

-----. 1993. Chicano English and the nature of the Chicano language setting. *Hispanic Journal of Behavioral Sciences* 15: 3-35.

Sawyer, Janet. 1975. Spanish-English Bilingualism in San-Antonio, Texas. In Anthony F**.** Beltramo, Eduardo Hernandez-Chavez, and Andrew D. Cohen, eds. *El Lenguaje de los Chicanos: Regional and Social Characteristics of Language Used by Mexican-Americans*. Arlington, VA: Center for Applied Linguistics.

Spears, Arthur. 1987. Are Black and White Vernaculars Diverging? Papers from the NWAVE XIV Panel Discussion

Stevens, K.N. 1972. The quantal nature of speech: evidence from articulatory-acoustic data. In E. E. David, Jr. and P.B. Denes, eds. *Human Communication: a unified view*. New York: McGraw Hill, 51-66.

Thomas, Erik. 1989. "The Implications of /o/ fronting in Wilmington, North Carolina." *American Speech* 64: 327-333.

Thompson, R. 1975. Mexican-American English: Social Correlates of Regional Pronunciation. *American Speech* 50: 18-24.

Tienda, Marta and Faith Mitchell, eds. 2006. *Multiple Origins, Uncertain Destinies and the American Future.* Washington D.C: National Academy Press

Tienda, Marta. 2009. "Hispanicity and Educational Inequality: Risks, Opportunities and the Nation's Future." Tomás Rivera Lecture presented at the conference of the AAHHE.

Trudgill, Peter. 1972. Sex, covert prestige and linguistic change in the urban British English of Norwich. *Language in Society* 1: 179-95.

-----. 1974. The Social Differentiation of English in Norwich. Cambridge: Cambridge University Press

Trudgill, P, ed. 1978. *Sociolinguistic Patterns in British English*. London: Edward Arnold.

U.S. Census Bureau Community Center Survey, 2008.

Vaughn-Cooke, Fay B. 1987. Are Black and White Vernaculars Diverging? Papers from the NWAVE XIV Panel Discussion.

Wardhaugh, Ronald. 2002. "Introduction." In, Wardhaugh, Ronald, ed. *An Introduction to Sociolinguistics*. Massachusetts: Blackwell Publishing.

Watt, Dominic. 2006. Variation and the Variable. In, *The Routledge Companion to Sociolinguistics*.

Weinreich, U., W. Labov and M. Herzog, 1968. Empirical Foundations for a Theory of Language Change. Oxford: OUP.

Wolfram, Walt. 1969. *A Sociolinguistic description of Detriot Negro speech*. Urban Language Series, 5. Washington D.C: Center for Applied Linguistics.

-----. 1974. *Sociolinguistic Aspects of Assimilation: Puerto Rican English in New York City*. Washington, DC: Center for Applied Linguistics.

-----. 1987. Are Black and White Vernaculars Diverging? Papers fron the NWAVE XIV Panel Discussion.

Wolfram, Walt and Ralph W. Fasold. 1974. *The Study of Social Dialects in American English*. Prentice Hall: New Jersey.

Wolfram, Walt, and Clare Dannenberg. 1999. Dialect identity in a tri-ethnic context: The case of Lumbee American Indian English. *English World Wide 20*: 179-216.

Wolfram, Walt, Philip Carter and Beckie Moriello. 2004. Emerging Hispanic English: New Dialect Formation in the American South. *Journal of Sociolinguistics* 8: 339-358.

Zentella, Ana Celia. 1997. *Growing up Bilingual*. Oxford: Basil Blackwell.